

000 Bell Beaker tombs, while in Britain, Austria, Germany, and the Adriatic Alps a hundred or more may be attributed to the Bronze Age.<sup>2</sup> Tomb forms and grave furniture indicate without question that these people were immigrants from the eastern Mediterranean. During the whole racial history of Europe there is but one time when these migrations could have taken place—the beginning of the Bronze Age. Even then the immigrants could not have come in large numbers, nor as a racially homogeneous population.

[14] Today the Dinaric concentration lies in the Adriatic Alps, with a smaller nucleus in the Carpathians. Authors who published before 1929 felt that the very center would be found in northern Albania, because the country was wild and rugged, the local speech the most archaic in Europe, and because the small series of mountaineers already measured in Scutari so indicated. Ghegnia seemed the strategic place in which to study the Dinaric problem. This is really 2 problems: (a) to describe in detail the Dinaric type, and (b) to explain it. We shall attempt both.

Modern biology offers at least 2 theories which would explain Dinaricization.

1. *The Hybridization Theory.* A combination of dominants in a cross between 2 genetically different populations, one long headed and narrow faced, the other round headed and broad faced. If the short head, broad head, high head, broad forehead, narrow jaw, long face, long nose, narrow nose—all these were dominant over their opposite numbers, and brought together, a Dinaric form might result.<sup>3</sup>

2. *The Evolutionary Theory.* As Dobzhansky<sup>4</sup> points out, most geneticists now hold that mutations take place gene by gene. If Dinaricization is an evolutionary process, then only one gene is involved. To determine this we must study the mechanics of the Dinaric head and face form. Furthermore, if this is true,

<sup>2</sup> This theory was advanced by Hughes, 1938 (still unpublished), and Coon, 1939.

<sup>4</sup> Dobzhansky, 1944, p. 258.

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TABLE 3: MEASUREMENTS AND INDICES

| Measurements             | Total Series                 | MM                          | DUK                         | MEJ                         | MAE                         | LUM                         | POK                         | MEK                         | SAD                         | MAY                         | DHS                         |
|--------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Stature                  | 1045/143-193<br>109.71 ± .14 | 105/155-190<br>172.77 ± .41 | 106/155-190<br>173.93 ± .41 | 104/155-197<br>173.47 ± .36 | 112/143-193<br>170.83 ± .46 | 108/155-190<br>169.47 ± .38 | 103/153-194<br>169.17 ± .43 | 101/145-194<br>168.69 ± .39 | 106/160-191<br>169.99 ± .43 | 104/153-194<br>169.69 ± .41 | 106/153-197<br>168.47 ± .44 |
| Span                     | 1042/133-208<br>178.37 ± .17 | 103/161-200<br>180.93 ± .61 | 104/164-205<br>182.39 ± .65 | 103/161-190<br>178.74 ± .43 | 112/150-200<br>179.47 ± .61 | 106/156-193<br>175.97 ± .47 | 103/152-192<br>176.16 ± .47 | 101/150-190<br>173.64 ± .43 | 106/150-190<br>173.84 ± .43 | 104/155-190<br>171.87 ± .53 | 106/155-196<br>173.70 ± .54 |
| Sitting height           | 1045/90-191<br>89.44 ± .80   | 103/161-191<br>90.82 ± .23  | 104/161-191<br>90.73 ± .21  | 103/161-191<br>91.00 ± .19  | 112/150-190<br>90.77 ± .34  | 106/156-190<br>90.39 ± .26  | 103/152-190<br>90.39 ± .26  | 101/150-190<br>87.43 ± .33  | 106/150-190<br>88.36 ± .33  | 104/155-190<br>88.37 ± .23  | 106/155-196<br>88.37 ± .23  |
| Macromental diameter     | 1047/31-48<br>38.53 ± .09    | 105/34-48<br>36.71 ± .14    | 104/31-48<br>40.37 ± .14    | 104/34-48<br>40.37 ± .14    | 114/31-48<br>38.30 ± .13    | 106/34-48<br>38.49 ± .10    | 103/34-48<br>37.51 ± .13    | 101/31-48<br>37.65 ± .13    | 106/31-48<br>37.84 ± .13    | 104/31-48<br>36.36 ± .16    | 106/31-48<br>37.84 ± .16    |
| Mil-lilac                | 1047/33-39<br>30.44 ± .04    | 105/35-38<br>30.71 ± .11    | 104/33-38<br>31.19 ± .10    | 104/33-38<br>30.56 ± .12    | 114/33-38<br>31.19 ± .13    | 106/33-38<br>30.14 ± .11    | 103/33-38<br>30.36 ± .13    | 101/33-38<br>30.11 ± .13    | 106/33-38<br>30.70 ± .14    | 104/33-38<br>30.66 ± .13    | 106/33-38<br>30.66 ± .13    |
| Chest breadth            | 1047/29-40<br>38.36 ± .04    | 105/29-34<br>39.40 ± .13    | 104/29-37<br>38.53 ± .13    | 104/29-34<br>38.71 ± .13    | 114/29-37<br>39.16 ± .13    | 106/29-34<br>38.36 ± .13    | 103/29-34<br>38.36 ± .13    | 101/29-34<br>38.66 ± .13    | 106/29-34<br>38.36 ± .13    | 104/29-34<br>38.36 ± .11    | 106/29-40<br>38.36 ± .13    |
| Chest depth              | 1046/18-35<br>24.39 ± .04    | 105/20-29<br>23.62 ± .11    | 104/20-28<br>24.34 ± .13    | 104/20-31<br>24.54 ± .13    | 114/18-29<br>24.43 ± .13    | 106/20-32<br>24.18 ± .09    | 103/20-32<br>23.50 ± .11    | 101/20-31<br>24.53 ± .13    | 106/20-31<br>24.53 ± .07    | 104/20-29<br>23.52 ± .13    | 106/20-29<br>23.52 ± .10    |
| Head length              | 1047/114-211<br>188.19 ± .15 | 105/170-308<br>195.45 ± .48 | 106/176-305<br>188.00 ± .39 | 104/187-308<br>188.00 ± .40 | 114/177-311<br>188.56 ± .43 | 106/170-306<br>188.39 ± .43 | 103/177-308<br>188.43 ± .40 | 101/175-303<br>188.57 ± .45 | 106/170-300<br>188.16 ± .39 | 104/187-302<br>188.16 ± .40 | 106/184-308<br>188.55 ± .45 |
| Head breadth             | 1047/138-179<br>157.78 ± .13 | 105/147-179<br>161.50 ± .37 | 106/147-179<br>160.09 ± .33 | 104/130-172<br>154.70 ± .39 | 114/130-179<br>157.87 ± .45 | 106/141-173<br>155.36 ± .38 | 103/141-170<br>154.19 ± .37 | 101/144-172<br>157.89 ± .39 | 106/144-173<br>158.74 ± .37 | 104/144-178<br>157.81 ± .38 | 106/140-178<br>158.43 ± .33 |
| Head height              | 1047/110-148<br>129.34 ± .12 | 105/113-142<br>128.39 ± .37 | 106/113-148<br>127.00 ± .40 | 104/110-145<br>129.38 ± .38 | 114/110-145<br>128.46 ± .43 | 106/110-142<br>128.34 ± .38 | 103/113-145<br>128.49 ± .38 | 101/116-143<br>128.39 ± .38 | 106/113-143<br>128.47 ± .43 | 104/113-143<br>128.39 ± .38 | 106/119-148<br>128.71 ± .38 |
| Min. frontal diameter    | 1047/98-128<br>100.88 ± .10  | 105/97-124<br>112.43 ± .31  | 106/97-120<br>100.88 ± .30  | 104/97-130<br>100.88 ± .30  | 114/98-134<br>107.38 ± .33  | 106/98-130<br>100.88 ± .31  | 103/97-134<br>107.78 ± .33  | 101/97-132<br>107.88 ± .30  | 106/93-132<br>107.78 ± .33  | 104/93-134<br>108.00 ± .30  | 106/97-134<br>108.82 ± .30  |
| Mazgonic diameter        | 1047/115-164<br>143.38 ± .13 | 105/130-164<br>144.30 ± .41 | 106/130-169<br>144.39 ± .38 | 104/130-169<br>143.80 ± .40 | 114/130-169<br>145.18 ± .35 | 106/136-134<br>143.78 ± .33 | 103/115-164<br>141.80 ± .38 | 101/130-169<br>143.85 ± .33 | 106/130-169<br>141.70 ± .40 | 104/133-163<br>141.69 ± .38 | 106/133-164<br>140.68 ± .31 |
| Bigonial diameter        | 1047/96-132<br>107.70 ± .13  | 105/98-121<br>109.83 ± .41  | 106/98-133<br>108.10 ± .37  | 104/94-133<br>108.82 ± .40  | 114/98-139<br>108.14 ± .41  | 106/94-130<br>107.10 ± .30  | 103/96-133<br>107.30 ± .43  | 101/96-135<br>106.83 ± .39  | 106/94-136<br>107.23 ± .41  | 104/94-136<br>107.48 ± .40  | 106/98-131<br>106.78 ± .38  |
| Total face height*       | 931/95-144<br>123.90 ± .14   | 92/105-139<br>124.15 ± .33  | 101/110-144<br>127.85 ± .43 | 98/105-144<br>124.45 ± .60  | 92/110-144<br>128.30 ± .43  | 99/110-139<br>124.50 ± .37  | 92/95-134<br>121.18 ± .45   | 90/105-134<br>120.80 ± .43  | 92/105-136<br>123.80 ± .40  | 92/105-144<br>123.80 ± .40  | 95/105-136<br>124.06 ± .43  |
| Upper face height*       | 931/95-99<br>73.53 ± .11     | 92/95-94<br>73.40 ± .37     | 101/95-94<br>73.40 ± .32    | 94/95-99<br>73.53 ± .35     | 92/95-99<br>72.70 ± .34     | 99/95-99<br>72.88 ± .32     | 92/95-94<br>72.88 ± .31     | 90/95-94<br>72.88 ± .35     | 92/95-94<br>72.88 ± .34     | 92/95-94<br>72.88 ± .37     | 95/95-99<br>72.88 ± .35     |
| Nose height              | 1046/64-71<br>58.16 ± .09    | 105/65-71<br>58.58 ± .37    | 104/64-71<br>58.16 ± .35    | 104/64-71<br>58.58 ± .37    | 115/64-71<br>58.45 ± .38    | 106/64-71<br>58.45 ± .38    | 103/64-71<br>58.45 ± .37    | 101/64-71<br>58.45 ± .37    | 106/64-71<br>58.45 ± .37    | 104/64-71<br>58.45 ± .37    | 106/64-71<br>58.45 ± .35    |
| Nose breadth             | 1046/33-43<br>33.77 ± .06    | 105/33-43<br>34.19 ± .30    | 104/33-43<br>34.07 ± .19    | 104/33-43<br>34.19 ± .16    | 115/33-43<br>33.70 ± .21    | 106/33-43<br>33.30 ± .16    | 103/33-43<br>33.30 ± .19    | 101/33-43<br>33.71 ± .30    | 106/33-43<br>33.30 ± .30    | 104/33-43<br>33.30 ± .19    | 106/33-43<br>33.30 ± .16    |
| Indices                  |                              |                             |                             |                             |                             |                             |                             |                             |                             |                             |                             |
| Relative span            | 1045/96-115<br>103.34 ± .08  | 105/100-108<br>104.18 ± .14 | 106/98-111<br>105.03 ± .18  | 103/98-111<br>103.76 ± .17  | 112/98-111<br>104.40 ± .19  | 106/95-109<br>102.84 ± .18  | 103/98-111<br>104.13 ± .18  | 101/96-118<br>104.34 ± .19  | 106/94-113<br>104.74 ± .17  | 104/96-109<br>103.13 ± .18  | 106/96-108<br>103.08 ± .17  |
| Relative sitting height  | 1043/43-58<br>93.78 ± .03    | 105/40-55<br>92.48 ± .09    | 104/48-55<br>93.38 ± .09    | 103/48-55<br>93.78 ± .08    | 112/48-55<br>92.88 ± .08    | 106/45-57<br>92.84 ± .11    | 103/48-57<br>92.80 ± .10    | 101/48-59<br>92.48 ± .10    | 106/48-59<br>92.30 ± .11    | 104/48-57<br>92.38 ± .10    | 106/48-57<br>92.38 ± .08    |
| Relative shoulder height | 1044/74-89<br>92.04 ± .03    | 105/80-83<br>92.15 ± .08    | 104/80-83<br>92.00 ± .08    | 104/80-87<br>92.38 ± .07    | 115/80-87<br>92.35 ± .07    | 106/80-83<br>91.85 ± .07    | 103/80-83<br>91.85 ± .08    | 101/74-89<br>91.85 ± .10    | 106/79-87<br>91.84 ± .09    | 104/80-87<br>91.85 ± .09    | 106/79-87<br>91.85 ± .08    |
| Rel. shoulder breadth    | 1043/16-27<br>33.78 ± .03    | 105/20-27<br>33.84 ± .07    | 104/20-27<br>33.58 ± .07    | 104/20-27<br>33.84 ± .07    | 115/20-28<br>33.44 ± .07    | 106/20-28<br>33.82 ± .06    | 103/20-28<br>33.82 ± .06    | 101/20-28<br>33.44 ± .06    | 106/20-27<br>33.74 ± .06    | 104/20-27<br>33.74 ± .06    | 106/20-28<br>33.74 ± .06    |
| Thoracic index           | 1049<br>84.94                | 106<br>81.38                | 104<br>82.47                | 104<br>82.33                | 114<br>82.71                | 106<br>84.38                | 103<br>84.66                | 101<br>85.83                | 104<br>86.90                | 104<br>84.83                | 106<br>84.90                |

\*Corrected for face shortening.

0: Coon

E-5 (1929-30; 46-48) 1950

ECI Albania ECI  
Highland Chieft

428  
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B: Coon E-5 (1929-30; 46-48) 1965

ECI Albania ECI  
Highland Chgs.

| Indices (Continued)   | Total Series               | MEN                       | DUK                       | MEJ                       | HAS                       | LUM                       | FUK                       | MIR                       | ZAD                       | MAT                       | DIV                       |
|-----------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Cephalic index        | 1067/70-99<br>84.84 ± .09  | 105/77-97<br>85.79 ± .25  | 106/86-97<br>84.84 ± .24  | 104/71-94<br>83.84 ± .29  | 114/71-97<br>83.59 ± .28  | 100/74-99<br>83.76 ± .27  | 102/74-97<br>83.76 ± .28  | 101/74-97<br>84.30 ± .27  | 105/77-97<br>84.30 ± .24  | 104/74-97<br>84.84 ± .27  | 100/74-97<br>84.84 ± .28  |
| Length-height index   | 1067/56-81<br>88.05 ± .07  | 105/56-81<br>88.50 ± .22  | 106/81-78<br>87.38 ± .23  | 104/56-78<br>88.83 ± .22  | 114/56-78<br>88.18 ± .31  | 100/81-78<br>88.18 ± .31  | 102/84-81<br>88.84 ± .31  | 101/81-78<br>88.84 ± .32  | 106/84-81<br>71.45 ± .23  | 104/56-78<br>88.05 ± .25  | 106/81-78<br>88.84 ± .24  |
| Breadth-height index  | 1067/67-99<br>81.47 ± .09  | 105/70-99<br>80.63 ± .24  | 106/70-92<br>78.73 ± .27  | 104/73-99<br>82.49 ± .28  | 114/67-92<br>81.50 ± .31  | 100/70-92<br>82.89 ± .28  | 102/73-92<br>82.43 ± .27  | 101/73-92<br>81.80 ± .24  | 106/73-92<br>82.31 ± .25  | 104/73-92<br>80.19 ± .26  | 106/70-92<br>81.68 ± .23  |
| Fronto-parietal index | 1067/57-98<br>89.87 ± .07  | 105/60-77<br>88.58 ± .18  | 106/60-68<br>89.19 ± .21  | 104/63-88<br>79.53 ± .21  | 114/60-88<br>88.60 ± .23  | 100/60-88<br>88.84 ± .23  | 102/60-77<br>88.84 ± .24  | 101/60-88<br>88.84 ± .24  | 106/60-77<br>88.84 ± .23  | 104/60-77<br>88.84 ± .23  | 106/60-77<br>88.84 ± .23  |
| Cephalo-facial index  | 1067/73-105<br>90.28 ± .07 | 105/78-98<br>89.48 ± .21  | 106/73-99<br>90.11 ± .23  | 104/82-102<br>90.80 ± .22 | 114/78-99<br>90.80 ± .22  | 100/82-102<br>90.80 ± .22 | 102/78-99<br>90.80 ± .22  | 101/82-99<br>90.80 ± .22  | 106/78-99<br>90.80 ± .22  | 104/78-99<br>90.80 ± .22  | 106/78-99<br>90.80 ± .22  |
| Zygo-frontal index    | 1067/84-95<br>78.74 ± .08  | 105/88-97<br>78.86 ± .23  | 106/88-95<br>78.86 ± .23  | 104/88-95<br>77.30 ± .23  | 114/84-92<br>78.84 ± .23  | 100/88-97<br>78.74 ± .23  | 102/88-91<br>78.84 ± .23  | 101/88-92<br>78.84 ± .23  | 106/88-91<br>78.84 ± .23  | 104/88-91<br>78.84 ± .23  | 106/88-91<br>78.84 ± .23  |
| Fronto-genial index   | 1067/70-124<br>88.80 ± .13 | 105/75-114<br>87.80 ± .42 | 106/80-114<br>88.80 ± .37 | 104/85-110<br>88.80 ± .37 | 114/70-124<br>88.80 ± .37 | 100/85-119<br>88.80 ± .37 | 102/80-109<br>88.80 ± .42 | 101/80-114<br>88.80 ± .42 | 106/80-119<br>88.80 ± .42 | 104/80-119<br>88.80 ± .42 | 106/80-119<br>88.80 ± .42 |
| Zygo-genial index     | 1067/87-95<br>78.75 ± .08  | 105/81-98<br>78.10 ± .29  | 106/83-98<br>78.80 ± .27  | 104/88-98<br>78.12 ± .23  | 114/88-98<br>78.12 ± .23  | 100/88-92<br>78.74 ± .23  | 102/88-99<br>78.84 ± .23  | 101/88-99<br>78.84 ± .23  | 106/88-99<br>78.84 ± .23  | 104/88-99<br>78.84 ± .23  | 106/88-99<br>78.84 ± .23  |
| Facial index          | 821/74-108<br>87.84 ± .11  | 82/74-108<br>88.10 ± .42  | 101/74-101<br>85.72 ± .35 | 89/74-108<br>87.78 ± .37  | 82/78-105<br>87.80 ± .38  | 89/78-101<br>87.80 ± .38  | 82/74-101<br>88.83 ± .38  | 89/74-97<br>88.83 ± .38   | 89/78-101<br>87.33 ± .35  | 82/74-105<br>87.78 ± .38  | 89/78-97<br>87.78 ± .38   |
| Upper facial index    | 821/77-98<br>81.41 ± .08   | 82/43-80<br>80.73 ± .27   | 101/43-98<br>80.80 ± .24  | 89/37-98<br>81.80 ± .28   | 82/44-88<br>84.30 ± .28   | 89/44-88<br>81.87 ± .22   | 82/43-82<br>81.31 ± .23   | 89/43-88<br>81.31 ± .23   | 89/43-88<br>81.31 ± .23   | 82/43-88<br>81.31 ± .23   | 89/43-88<br>81.31 ± .23   |
| Nasal index           | 1068/40-82<br>88.38 ± .12  | 106/40-71<br>88.32 ± .31  | 106/44-78<br>88.38 ± .38  | 104/48-78<br>88.38 ± .38  | 112/44-78<br>87.80 ± .38  | 100/44-71<br>88.18 ± .33  | 102/44-78<br>88.32 ± .42  | 101/44-78<br>88.32 ± .42  | 106/44-78<br>88.32 ± .42  | 104/44-78<br>88.32 ± .42  | 106/44-78<br>88.32 ± .42  |

| Measurements            | B. STANDARD DEVIATION ± P.E. |            |            |            |            |            |            |            |            |            |            |
|-------------------------|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Stature                 | 6.72 ± .10                   | 6.24 ± .29 | 6.21 ± .29 | 6.52 ± .28 | 7.28 ± .33 | 6.91 ± .27 | 6.62 ± .30 | 6.92 ± .28 | 6.32 ± .30 | 6.31 ± .29 | 6.78 ± .31 |
| Span                    | 6.01 ± .12                   | 7.68 ± .28 | 6.80 ± .22 | 6.91 ± .21 | 8.10 ± .28 | 7.39 ± .23 | 7.11 ± .24 | 8.27 ± .28 | 8.27 ± .28 | 7.92 ± .27 | 8.28 ± .28 |
| Sitting height          | 3.89 ± .06                   | 3.48 ± .18 | 3.48 ± .18 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 | 3.84 ± .17 |
| Biacromial diameter     | 3.18 ± .03                   | 2.13 ± .10 | 2.07 ± .10 | 2.01 ± .09 | 2.12 ± .10 | 1.83 ± .07 | 1.83 ± .07 | 1.83 ± .07 | 1.83 ± .07 | 1.83 ± .07 | 1.83 ± .07 |
| Bi-iliac                | 1.89 ± .03                   | 1.71 ± .08 | 1.47 ± .07 | 1.77 ± .08 | 1.84 ± .08 | 1.84 ± .08 | 1.77 ± .08 | 1.77 ± .08 | 1.77 ± .08 | 1.77 ± .08 | 1.77 ± .08 |
| Chest breadth           | 1.89 ± .03                   | 1.88 ± .09 | 1.88 ± .09 | 1.77 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 |
| Chest depth             | 1.78 ± .03                   | 1.72 ± .08 | 1.88 ± .08 | 1.70 ± .08 | 1.92 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 | 1.82 ± .08 |
| Head length             | 7.08 ± .10                   | 6.98 ± .23 | 6.98 ± .23 | 7.32 ± .34 | 6.98 ± .23 | 6.98 ± .23 | 6.98 ± .23 | 6.98 ± .23 | 6.98 ± .23 | 6.98 ± .23 | 6.98 ± .23 |
| Head breadth            | 6.00 ± .09                   | 5.84 ± .28 | 5.84 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 | 5.88 ± .28 |
| Head height             | 6.93 ± .09                   | 5.81 ± .28 | 5.81 ± .28 | 5.73 ± .27 | 5.81 ± .28 | 5.81 ± .28 | 5.81 ± .28 | 5.81 ± .28 | 5.81 ± .28 | 5.81 ± .28 | 5.81 ± .28 |
| Mia. frontal diameter   | 4.92 ± .07                   | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 | 4.68 ± .23 |
| Bitygomatic diameter    | 5.68 ± .08                   | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 |
| Biogonial diameter      | 6.12 ± .09                   | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 | 6.20 ± .29 |
| Total face height       | 6.50 ± .10                   | 6.98 ± .27 | 6.98 ± .27 | 7.00 ± .28 | 6.98 ± .27 | 6.98 ± .27 | 6.98 ± .27 | 6.98 ± .27 | 6.98 ± .27 | 6.98 ± .27 | 6.98 ± .27 |
| Upper face height       | 5.00 ± .08                   | 5.98 ± .28 | 5.98 ± .28 | 5.10 ± .28 | 5.98 ± .28 | 5.98 ± .28 | 5.98 ± .28 | 5.98 ± .28 | 5.98 ± .28 | 5.98 ± .28 | 5.98 ± .28 |
| Nose height             | 4.30 ± .08                   | 4.10 ± .10 | 4.10 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 | 4.04 ± .10 |
| Nose breadth            | 2.78 ± .04                   | 3.08 ± .14 | 3.08 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 | 2.97 ± .14 |
| Indices                 |                              |            |            |            |            |            |            |            |            |            |            |
| Relative span           | 2.84 ± .04                   | 3.20 ± .10 | 3.48 ± .11 | 2.80 ± .12 | 3.34 ± .11 | 3.42 ± .11 | 3.28 ± .11 | 3.88 ± .13 | 2.80 ± .12 | 3.48 ± .12 | 2.84 ± .12 |
| Relative sitting height | 1.50 ± .02                   | 1.44 ± .07 | 1.38 ± .06 | 1.34 ± .06 | 1.32 ± .06 | 1.32 ± .06 | 1.32 ± .06 | 1.32 ± .06 | 1.32 ± .06 | 1.32 ± .06 | 1.32 ± .06 |
| Rel. shoulder height    | 1.24 ± .02                   | 1.14 ± .05 | 1.08 ± .05 | 1.12 ± .05 | 1.14 ± .05 | 1.08 ± .05 | 1.18 ± .05 | 1.04 ± .07 | 1.08 ± .05 | 1.04 ± .07 | 1.08 ± .05 |
| Rel. shoulder breadth   | 1.20 ± .02                   | 1.18 ± .05 | 1.12 ± .05 | 1.08 ± .05 | 1.12 ± .05 | 1.08 ± .05 | 1.14 ± .05 | 1.18 ± .05 | 1.18 ± .05 | 1.18 ± .05 | 1.18 ± .05 |
| Thoracic index          |                              |            |            |            |            |            |            |            |            |            |            |
| Cephalic index          | 8.20 ± .04                   | 8.81 ± .18 | 8.80 ± .17 | 8.22 ± .20 | 8.50 ± .20 | 8.14 ± .19 | 8.92 ± .18 | 8.84 ± .19 | 8.82 ± .17 | 8.11 ± .19 | 8.84 ± .18 |
| Length-height index     | 3.63 ± .05                   | 3.33 ± .15 | 3.48 ± .16 | 3.38 ± .18 | 3.81 ± .17 | 3.38 ± .15 | 3.12 ± .15 | 3.27 ± .18 | 3.38 ± .16 | 3.84 ± .18 | 3.69 ± .17 |

\*Corrected for face shortening.

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| Indices (Continued)   | Total Series | MM         | DUK        | MEJ        | HAS        | LUM        | PUK        | MIK        | ZAD        | MAT        | ENB        |
|-----------------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Breadth-height index  | 4.17 ± .08   | 3.72 ± .17 | 4.11 ± .19 | 3.90 ± .18 | 4.05 ± .19 | 4.85 ± .19 | 4.08 ± .19 | 3.97 ± .17 | 3.81 ± .18 | 3.83 ± .18 | 3.80 ± .17 |
| Fronto-parietal index | 3.32 ± .05   | 3.19 ± .13 | 3.27 ± .15 | 3.18 ± .15 | 3.72 ± .17 | 3.39 ± .15 | 3.97 ± .17 | 3.48 ± .17 | 3.30 ± .15 | 3.33 ± .15 | 3.03 ± .14 |
| Cephalo-facial index  | 3.48 ± .05   | 3.13 ± .15 | 3.39 ± .18 | 3.43 ± .18 | 3.37 ± .18 | 3.23 ± .15 | 3.97 ± .17 | 3.27 ± .14 | 3.18 ± .15 | 3.40 ± .17 | 3.78 ± .17 |
| Zygo-frontal index    | 3.72 ± .05   | 3.54 ± .17 | 3.82 ± .19 | 3.82 ± .19 | 3.16 ± .14 | 3.82 ± .18 | 3.98 ± .18 | 3.28 ± .14 | 4.12 ± .19 | 3.72 ± .17 | 3.84 ± .17 |
| Fronto-gonial index   | 6.45 ± .09   | 6.40 ± .20 | 5.90 ± .28 | 5.80 ± .28 | 7.30 ± .33 | 8.70 ± .28 | 6.30 ± .30 | 4.80 ± .25 | 6.43 ± .21 | 6.40 ± .21 | 6.40 ± .21 |
| Zygo-gonial index     | 3.80 ± .08   | 4.41 ± .21 | 4.11 ± .19 | 3.81 ± .18 | 4.03 ± .19 | 3.84 ± .17 | 4.30 ± .20 | 3.83 ± .19 | 4.32 ± .20 | 3.84 ± .17 | 3.73 ± .17 |
| Facial index          | 3.64 ± .08   | 3.84 ± .20 | 4.80 ± .23 | 3.80 ± .20 | 5.00 ± .25 | 4.30 ± .20 | 5.04 ± .25 | 3.84 ± .21 | 5.10 ± .28 | 5.38 ± .28 | 4.18 ± .17 |
| Upper facial index    | 3.63 ± .08   | 3.68 ± .27 | 3.54 ± .17 | 3.60 ± .18 | 3.80 ± .20 | 3.24 ± .18 | 3.24 ± .18 | 2.97 ± .18 | 3.33 ± .18 | 3.80 ± .19 | 3.88 ± .24 |
| Nasal index           | 8.04 ± .08   | 6.78 ± .29 | 8.12 ± .28 | 8.40 ± .29 | 8.00 ± .27 | 8.04 ± .23 | 8.32 ± .30 | 8.58 ± .28 | 8.34 ± .29 | 8.78 ± .32 | 8.84 ± .24 |

# Measurements

|                       |            |            |            |            |            |            |            |            |            |            |            |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Stature               | 3.98 ± .08 | 3.81 ± .17 | 3.88 ± .17 | 3.20 ± .15 | 4.25 ± .19 | 3.49 ± .18 | 3.79 ± .18 | 3.49 ± .17 | 3.79 ± .18 | 3.73 ± .17 | 4.03 ± .17 |
| Span                  | 4.84 ± .08 | 4.27 ± .20 | 3.79 ± .18 | 3.84 ± .17 | 4.84 ± .20 | 4.19 ± .19 | 4.04 ± .19 | 3.81 ± .17 | 4.10 ± .18 | 4.01 ± .22 | 4.77 ± .21 |
| Biting height         | 4.13 ± .08 | 3.80 ± .18 | 3.87 ± .17 | 3.18 ± .15 | 4.08 ± .19 | 4.43 ± .20 | 4.39 ± .21 | 3.74 ± .18 | 3.84 ± .18 | 3.89 ± .19 | 3.88 ± .17 |
| Biacromial diameter   | 5.88 ± .08 | 5.36 ± .28 | 5.13 ± .24 | 5.12 ± .24 | 5.84 ± .25 | 4.31 ± .19 | 4.01 ± .23 | 5.29 ± .26 | 4.86 ± .23 | 5.84 ± .26 | 6.00 ± .23 |
| Bi-iliac              | 8.21 ± .13 | 3.37 ± .28 | 4.71 ± .32 | 5.79 ± .37 | 8.97 ± .37 | 8.97 ± .38 | 8.87 ± .31 | 8.08 ± .28 | 8.66 ± .33 | 8.31 ± .28 | 8.83 ± .28 |
| Chest breadth         | 8.82 ± .14 | 8.33 ± .29 | 8.43 ± .31 | 8.17 ± .29 | 8.28 ± .28 | 8.81 ± .30 | 8.24 ± .39 | 8.31 ± .30 | 7.11 ± .23 | 8.74 ± .37 | 7.23 ± .28 |
| Chest depth           | 7.34 ± .15 | 7.19 ± .33 | 7.45 ± .38 | 6.93 ± .32 | 7.88 ± .38 | 5.48 ± .18 | 3.89 ± .18 | 3.89 ± .17 | 3.89 ± .17 | 3.89 ± .17 | 3.89 ± .17 |
| Head length           | 3.80 ± .08 | 3.21 ± .15 | 3.16 ± .15 | 3.87 ± .18 | 3.80 ± .18 | 3.88 ± .18 | 3.83 ± .17 | 3.74 ± .18 | 3.80 ± .18 | 3.80 ± .17 | 3.80 ± .17 |
| Head breadth          | 3.80 ± .08 | 3.48 ± .18 | 3.17 ± .15 | 3.78 ± .18 | 4.47 ± .20 | 3.48 ± .18 | 3.83 ± .17 | 3.74 ± .18 | 3.80 ± .18 | 3.80 ± .17 | 3.80 ± .17 |
| Head height           | 4.70 ± .10 | 4.43 ± .21 | 4.84 ± .22 | 4.43 ± .21 | 5.30 ± .24 | 4.33 ± .20 | 4.48 ± .21 | 4.18 ± .20 | 4.84 ± .23 | 4.88 ± .23 | 4.88 ± .23 |
| Min. frontal diameter | 4.52 ± .09 | 4.16 ± .19 | 3.82 ± .18 | 4.18 ± .20 | 4.74 ± .21 | 4.87 ± .21 | 4.41 ± .21 | 4.18 ± .20 | 4.81 ± .21 | 4.80 ± .23 | 4.18 ± .21 |
| Bi-zygomatic diameter | 3.97 ± .08 | 4.37 ± .20 | 4.04 ± .19 | 5.10 ± .24 | 3.87 ± .17 | 3.48 ± .18 | 4.02 ± .24 | 3.49 ± .18 | 4.39 ± .20 | 4.11 ± .19 | 3.84 ± .17 |
| Bi-gonial diameter    | 5.88 ± .11 | 5.71 ± .27 | 5.13 ± .24 | 5.81 ± .28 | 5.89 ± .27 | 5.12 ± .23 | 6.06 ± .28 | 5.81 ± .28 | 5.79 ± .27 | 5.84 ± .28 | 5.84 ± .28 |
| Total face height     | 5.25 ± .08 | 5.80 ± .30 | 5.13 ± .24 | 5.82 ± .27 | 4.87 ± .24 | 4.43 ± .21 | 5.38 ± .29 | 4.73 ± .25 | 5.40 ± .27 | 5.34 ± .28 | 4.73 ± .25 |
| Upper face height     | 5.80 ± .11 | 5.81 ± .38 | 6.40 ± .30 | 6.83 ± .34 | 8.23 ± .31 | 8.37 ± .31 | 8.07 ± .30 | 8.31 ± .34 | 8.88 ± .33 | 7.37 ± .38 | 7.14 ± .37 |
| Nose height           | 7.23 ± .15 | 7.10 ± .33 | 7.78 ± .31 | 6.88 ± .25 | 7.84 ± .33 | 7.33 ± .23 | 8.88 ± .31 | 7.88 ± .31 | 7.12 ± .28 | 7.38 ± .34 | 8.82 ± .38 |
| Nose breadth          | 8.17 ± .17 | 8.88 ± .42 | 8.72 ± .48 | 6.88 ± .33 | 8.40 ± .42 | 8.31 ± .38 | 8.88 ± .41 | 8.72 ± .41 | 8.11 ± .42 | 8.88 ± .41 | 8.88 ± .41 |

# Indices

|                          |             |             |             |            |             |            |             |            |            |            |            |
|--------------------------|-------------|-------------|-------------|------------|-------------|------------|-------------|------------|------------|------------|------------|
| Relative span            | 2.49 ± .08  | 3.11 ± .10  | 3.38 ± .11  | 3.91 ± .13 | 3.34 ± .10  | 3.39 ± .11 | 3.17 ± .10  | 3.87 ± .12 | 3.48 ± .12 | 3.39 ± .11 | 3.88 ± .11 |
| Relative sitting height  | 2.84 ± .08  | 3.74 ± .13  | 2.83 ± .12  | 2.39 ± .11 | 2.81 ± .11  | 3.33 ± .12 | 3.84 ± .13  | 2.83 ± .13 | 3.06 ± .14 | 2.74 ± .12 | 3.77 ± .13 |
| Relative shoulder height | 1.51 ± .03  | 1.29 ± .08  | 1.20 ± .08  | 1.38 ± .08 | 1.29 ± .08  | 1.33 ± .08 | 1.44 ± .07  | 1.88 ± .09 | 1.88 ± .07 | 1.81 ± .07 | 1.88 ± .08 |
| Rel. shoulder breadth    | 5.27 ± .11  | 5.04 ± .24  | 4.78 ± .22  | 4.84 ± .22 | 4.88 ± .22  | 4.38 ± .20 | 5.07 ± .24  | 5.27 ± .25 | 5.38 ± .26 | 5.88 ± .27 | 5.84 ± .27 |
| Thoracic index           | 8.08 ± .10  | 4.39 ± .20  | 4.26 ± .19  | 5.89 ± .24 | 5.39 ± .23  | 8.01 ± .23 | 4.89 ± .23  | 4.88 ± .23 | 4.19 ± .20 | 4.78 ± .23 | 4.88 ± .23 |
| Length-height index      | 5.28 ± .11  | 4.78 ± .22  | 5.17 ± .24  | 4.90 ± .25 | 5.48 ± .24  | 4.84 ± .22 | 4.82 ± .21  | 4.78 ± .23 | 4.78 ± .23 | 4.88 ± .23 | 4.88 ± .23 |
| Breadth-height index     | 4.83 ± .23  | 4.83 ± .23  | 4.83 ± .23  | 4.83 ± .23 | 4.83 ± .23  | 4.83 ± .23 | 4.83 ± .23  | 4.83 ± .23 | 4.83 ± .23 | 4.83 ± .23 | 4.83 ± .23 |
| Fronto-parietal index    | 4.81 ± .10  | 4.07 ± .18  | 4.78 ± .22  | 4.83 ± .21 | 4.88 ± .24  | 4.83 ± .21 | 4.83 ± .21  | 4.83 ± .21 | 4.83 ± .21 | 4.83 ± .21 | 4.83 ± .21 |
| Cephalo-facial index     | 3.88 ± .08  | 3.49 ± .18  | 3.78 ± .18  | 3.82 ± .18 | 3.82 ± .18  | 3.43 ± .17 | 3.94 ± .19  | 3.37 ± .18 | 3.37 ± .18 | 3.88 ± .23 | 4.20 ± .21 |
| Zygo-frontal index       | 4.85 ± .10  | 4.83 ± .23  | 4.87 ± .21  | 4.83 ± .21 | 4.13 ± .19  | 4.89 ± .21 | 5.04 ± .24  | 4.33 ± .21 | 5.04 ± .24 | 4.87 ± .23 | 4.88 ± .23 |
| Fronto-gonial index      | 6.37 ± .13  | 6.37 ± .21  | 6.88 ± .27  | 6.88 ± .27 | 7.28 ± .28  | 6.88 ± .27 | 6.88 ± .27  | 6.88 ± .27 | 6.88 ± .27 | 6.88 ± .27 | 6.88 ± .27 |
| Zygo-gonial index        | 8.27 ± .11  | 8.87 ± .27  | 8.43 ± .29  | 8.01 ± .23 | 8.28 ± .24  | 4.78 ± .23 | 8.88 ± .29  | 4.81 ± .25 | 8.84 ± .28 | 8.84 ± .28 | 4.77 ± .23 |
| Facial index             | 3.72 ± .09  | 8.88 ± .34  | 8.88 ± .34  | 7.12 ± .39 | 7.34 ± .38  | 8.23 ± .36 | 8.33 ± .31  | 8.11 ± .31 | 8.11 ± .31 | 8.74 ± .41 | 8.78 ± .41 |
| Upper facial index       | 7.06 ± .11  | 7.31 ± .28  | 8.88 ± .34  | 8.88 ± .34 | 8.88 ± .34  | 8.88 ± .34 | 8.88 ± .34  | 8.88 ± .34 | 8.88 ± .34 | 8.88 ± .34 | 8.88 ± .34 |
| Nasal index              | 10.35 ± .21 | 10.88 ± .50 | 10.11 ± .47 | 9.88 ± .43 | 10.38 ± .49 | 8.88 ± .41 | 10.07 ± .50 | 8.88 ± .45 | 8.88 ± .45 | 8.88 ± .45 | 8.88 ± .45 |

\*Corrected for face shortening.

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8: Coon E-5 (1929-30; 46-48) 1950 ECI Albania ECI Highland Ghegs

TABLE 4: OBSERVATIONS

|                             | Total Series |       | MEM |       | DUR |       | MRJ |       | HAS |       | LUM |       | PUK |       | MIR |       | SAD |       | MAT |       | DIB |       |
|-----------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| L BODY                      | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                       | 1046         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 104 |       | 104 |       | 106 |       |
| General musculature         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                         | 3            | .19   |     |       |     |       |     |       |     |       |     |       | 1   | .90   | 1   | .90   |     |       |     |       |     |       |
| sm                          | 200          | 19.19 | 10  | 17.14 | 5   | 4.72  | 12  | 11.54 | 10  | 16.07 | 14  | 12.84 | 10  | 16.83 | 27  | 26.73 | 30  | 28.85 | 27  | 25.96 | 30  | 28.93 |
| +                           | 880          | 80.80 | 94  | 80.85 | 83  | 77.89 | 81  | 77.89 | 78  | 68.87 | 70  | 63.72 | 87  | 85.89 | 47  | 45.57 | 82  | 78.82 | 89  | 84.73 | 82  | 77.81 |
| ++                          | 213          | 20.28 | 23  | 21.90 | 30  | 28.78 | 11  | 10.58 | 16  | 16.07 | 10  | 17.43 | 34  | 33.53 | 28  | 26.74 | 12  | 11.54 | 10  | 17.31 | 10  | 16.07 |
| +++                         | 1            | .09   |     |       |     |       |     |       |     |       |     |       | 1   | .90   |     |       |     |       |     |       |     |       |
| Total                       | 1047         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 104 |       | 104 |       | 106 |       |
| Neck, length                |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                         | 4            | .37   | 1   | .95   |     |       |     |       | 3   | 1.79  |     |       |     |       | 1   | .90   |     |       |     |       |     |       |
| sm                          | 336          | 32.55 | 30  | 28.57 | 26  | 24.52 | 16  | 15.39 | 30  | 28.07 | 30  | 28.11 | 39  | 36.21 | 34  | 32.47 | 39  | 37.52 | 40  | 37.12 | 39  | 36.11 |
| +                           | 641          | 60.97 | 70  | 66.33 | 69  | 65.09 | 69  | 65.09 | 60  | 55.23 | 71  | 65.16 | 88  | 84.89 | 60  | 56.89 | 83  | 78.82 | 84  | 79.93 | 84  | 79.39 |
| ++                          | 83           | 7.90  | 5   | 4.76  | 9   | 8.49  | 4   | 3.85  | 7   | 6.14  | 3   | 2.75  | 9   | 8.62  | 6   | 5.84  | 13  | 12.50 | 1   | .95   | 5   | 4.63  |
| +++                         | 1            | .09   | 1   | .95   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Neck, thickness             |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                         | 229          | 21.49 | 13  | 12.38 | 10  | 9.43  | 10  | 17.31 | 32  | 29.87 | 21  | 19.27 | 30  | 28.61 | 27  | 25.73 | 39  | 36.39 | 28  | 25.96 | 24  | 22.52 |
| +                           | 783          | 73.38 | 68  | 70.10 | 62  | 58.80 | 64  | 60.77 | 77  | 67.54 | 83  | 76.18 | 71  | 68.11 | 60  | 56.33 | 85  | 81.00 | 74  | 71.13 | 70  | 72.16 |
| ++                          | 85           | 8.15  | 10  | 9.52  | 4   | 3.77  | 2   | 1.92  | 5   | 4.39  | 5   | 4.39  | 11  | 10.70 | 5   | 4.93  | 4   | 3.81  | 4   | 3.85  | 5   | 4.63  |
| Total                       | 1046         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 104 |       | 104 |       | 106 |       |
| Shoulder slope              |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                        | 30           | 2.81  |     |       | 1   | .94   |     |       | 8   | 7.02  | 4   | 3.67  |     |       | 5   | 4.89  | 2   | 1.90  |     |       | 10  | 9.39  |
| sm                          | 2            | .19   |     |       |     |       |     |       | 1   | .88   |     |       |     |       |     |       |     |       |     | 1     | .95 |       |
| +                           | 347          | 32.55 | 19  | 18.10 | 17  | 16.04 | 25  | 24.04 | 39  | 36.21 | 32  | 29.38 | 40  | 38.22 | 40  | 38.31 | 30  | 28.57 | 60  | 56.68 | 62  | 58.60 |
| ++                          | 589          | 55.39 | 60  | 56.79 | 70  | 65.58 | 72  | 68.23 | 60  | 55.23 | 60  | 55.55 | 60  | 56.82 | 34  | 32.68 | 60  | 56.19 | 61  | 57.65 | 38  | 35.64 |
| +++                         | 80           | 7.61  | 10  | 17.14 | 10  | 9.43  | 7   | 6.73  | 8   | 7.39  | 7   | 6.42  | 12  | 11.70 | 13  | 12.87 | 14  | 13.33 | 3   | 2.88  | 8   | 7.48  |
| Total                       | 1046         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 104 |       | 104 |       | 106 |       |
| Chest development           |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                         | 3            | .28   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                          | 118          | 11.07 | 10  | 18.10 | 7   | 6.60  | 9   | 8.85  | 11  | 9.63  | 13  | 11.91 | 19  | 18.47 | 14  | 13.89 | 10  | 9.52  | 8   | 7.69  | 12  | 11.21 |
| +                           | 739          | 70.39 | 60  | 60.71 | 64  | 60.19 | 60  | 56.58 | 60  | 55.23 | 60  | 55.55 | 60  | 56.82 | 34  | 32.68 | 60  | 56.19 | 61  | 57.65 | 38  | 35.64 |
| ++                          | 184          | 17.26 | 17  | 16.19 | 14  | 13.21 | 5   | 4.61  | 34  | 30.53 | 10  | 14.48 | 14  | 13.78 | 23  | 22.77 | 10  | 14.29 | 28  | 26.93 | 18  | 16.95 |
| +++                         | 2            | .19   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Scapulae, vertebral borders |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Straight                    | 487          | 45.88 | 41  | 38.08 | 63  | 59.49 | 45  | 42.27 | 53  | 49.01 | 41  | 37.61 | 53  | 50.99 | 54  | 51.47 | 71  | 67.62 | 33  | 30.77 | 34  | 32.04 |
| Convex                      | 238          | 22.52 | 10  | 18.10 | 23  | 21.79 | 24  | 22.00 | 24  | 21.95 | 23  | 20.99 | 30  | 28.61 | 18  | 16.84 | 11  | 10.48 | 24  | 22.50 | 40  | 37.38 |
| Concave                     | 341          | 31.99 | 45  | 42.80 | 21  | 19.81 | 35  | 31.73 | 36  | 33.53 | 38  | 35.11 | 30  | 28.61 | 31  | 29.69 | 23  | 21.90 | 48  | 45.10 | 31  | 29.07 |
| Total                       | 1047         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 104 |       | 104 |       | 106 |       |
| Neck, lumbar curve          |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                        | 45           | 4.22  | 1   | .95   |     |       |     |       | 12  | 10.53 | 5   | 4.59  | 4   | 3.82  | 17  | 16.83 | 3   | 2.85  | 1   | .95   | 2   | 1.85  |
| sm                          | 2            | .19   |     |       |     |       |     |       | 1   | .88   |     |       |     |       |     |       |     |       |     |       |     |       |
| +                           | 338          | 31.99 | 49  | 46.67 | 28  | 26.42 | 37  | 34.59 | 51  | 46.74 | 49  | 44.95 | 44  | 41.14 | 64  | 61.37 | 74  | 70.48 | 87  | 82.42 | 87  | 82.70 |
| ++                          | 483          | 45.39 | 52  | 49.52 | 70  | 65.04 | 63  | 60.22 | 60  | 55.23 | 60  | 55.55 | 60  | 56.82 | 34  | 32.68 | 60  | 56.19 | 61  | 57.65 | 38  | 35.64 |
| +++                         | 21           | 2.01  | 3   | 2.88  | 8   | 7.58  | 4   | 3.85  | 4   | 3.61  |     |       |     |       |     |       | 2   | 1.90  | 5   | 4.63  | 5   | 4.63  |

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041

B: Coon

E-5 (1929-30; 46-48) 1950

EGJ Albania EGI  
Highland Cheags

|                   | Total Series |       | MEM |       | DUR |       | MER |       | HAS |       | LUM |       | PUK |       | MIN |       | SAD |       | MAT |       | DEB |       |
|-------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                   | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total .....       | 1087         |       | 108 |       | 108 |       | 104 |       | 114 |       | 109 |       | 102 |       | 101 |       | 100 |       | 104 |       | 100 |       |
| Abdomen           |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 318          | 29.24 | 18  | 16.24 | 19  | 17.93 | 25  | 24.04 | 26  | 21.93 | 24  | 22.02 | 27  | 26.47 | 18  | 17.83 | 14  | 13.32 | 23  | 22.13 | 23  | 21.30 |
| +                 | 787          | 71.98 | 90  | 78.19 | 84  | 78.25 | 79  | 75.96 | 88  | 76.16 | 74  | 67.98 | 86  | 84.71 | 79  | 69.31 | 78  | 74.29 | 73  | 69.23 | 78  | 72.23 |
| +++               | 84           | 7.87  | 8   | 8.97  | 3   | 2.83  |     |       | 9   | 7.89  | 11  | 10.09 | 9   | 8.83  | 13  | 12.87 | 15  | 12.98 | 9   | 8.86  | 7   | 6.68  |
| Buttocks          |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 348          | 32.33 | 26  | 24.76 | 8   | 8.00  | 23  | 21.15 | 48  | 42.11 | 26  | 23.85 | 49  | 46.04 | 26  | 27.43 | 42  | 40.00 | 21  | 20.21 | 24  | 21.48 |
| +                 | 879          | 82.84 | 73  | 68.83 | 89  | 80.57 | 80  | 76.92 | 83  | 68.28 | 78  | 68.72 | 48  | 43.10 | 38  | 37.52 | 60  | 57.14 | 71  | 68.27 | 71  | 66.74 |
| +++               | 43           | 4.03  | 6   | 5.71  | 4   | 3.77  | 3   | 1.92  | 3   | 2.63  | 7   | 6.43  | 7   | 6.86  | 5   | 4.95  | 3   | 2.83  | 2   | 1.92  | 3   | 2.78  |
| Calves            |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 189          | 15.94 | 7   | 6.97  |     |       |     |       | 21  | 18.42 | 18  | 13.78 | 11  | 10.78 | 36  | 18.96 | 24  | 22.60 | 20  | 20.86 | 21  | 20.70 |
| +                 | 820          | 84.83 | 86  | 84.78 | 86  | 81.32 |     |       | 71  | 62.27 | 85  | 67.83 | 73  | 68.97 | 60  | 56.82 | 48  | 47.52 | 82  | 80.98 | 80  | 80.86 |
| +++               | 238          | 24.18 | 38  | 36.97 | 38  | 36.79 | 24  | 23.08 | 38  | 34.94 | 31  | 19.27 | 27  | 26.47 | 31  | 30.09 | 18  | 17.14 | 19  | 14.43 | 22  | 21.90 |
| Real projection   |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 5            | .47   |     |       |     |       |     |       |     |       |     |       | 3   | 1.99  | 1   | .99   | 1   | .99   | 1   | .99   |     |       |
| +                 | 487          | 82.91 | 74  | 79.48 | 87  | 82.77 | 81  | 84.89 | 89  | 89.82 | 78  | 82.81 | 74  | 72.55 | 88  | 87.23 | 82  | 88.98 | 83  | 89.83 | 88  | 83.70 |
| +++               | 335          | 31.48 | 28  | 26.97 | 43  | 40.97 | 39  | 37.99 | 40  | 38.09 | 38  | 35.88 | 33  | 32.88 | 25  | 26.78 | 28  | 28.18 | 28  | 27.88 | 40  | 37.94 |
| Foot arch         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 7            | .88   | 3   | 2.86  |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| +                 | 247          | 23.18 | 21  | 20.00 | 22  | 20.19 | 19  | 19.27 | 19  | 18.97 | 28  | 23.85 | 24  | 23.83 | 39  | 36.78 | 33  | 31.43 | 25  | 24.94 | 23  | 20.37 |
| +++               | 294          | 27.88 | 39  | 37.14 | 36  | 38.30 | 29  | 24.04 | 23  | 20.18 | 35  | 32.11 | 19  | 18.83 | 39  | 31.88 | 19  | 17.14 |     |       | 24  | 21.68 |
| II. THE FACE      |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total .....       | 1087         |       | 108 |       | 108 |       | 104 |       | 114 |       | 109 |       | 102 |       | 101 |       | 100 |       | 104 |       | 100 |       |
| Forehead, height  |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 6            | .56   |     |       |     |       |     |       | 1   | .89   | 1   | .92   | 1   | .98   | 1   | .99   |     |       | 1   | .99   |     |       |
| +                 | 190          | 17.81 | 19  | 18.52 | 14  | 13.21 | 13  | 12.90 | 23  | 21.93 | 24  | 22.92 | 17  | 16.47 | 30  | 28.79 | 11  | 10.48 | 24  | 22.60 | 19  | 17.90 |
| +++               | 714          | 66.83 | 74  | 70.48 | 79  | 71.79 | 79  | 75.99 | 82  | 71.82 | 84  | 69.72 | 79  | 68.83 | 86  | 84.46 | 79  | 75.24 | 79  | 75.21 | 82  | 80.33 |
| Forehead, breadth |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm .....          | 82           | 8.81  | 8   | 4.76  | 3   | 2.83  | 8   | 8.77  | 3   | 2.63  | 12  | 11.01 | 8   | 8.89  | 12  | 11.88 | 8   | 4.78  | 3   | 2.86  | 8   | 6.82  |
| +                 | 788          | 84.38 | 58  | 58.24 | 78  | 75.58 | 88  | 82.88 | 79  | 69.39 | 89  | 73.39 | 79  | 78.47 | 87  | 88.83 | 79  | 74.39 | 82  | 80.32 | 88  | 81.88 |
| +++               | 289          | 27.89 | 40  | 38.10 | 25  | 23.58 | 13  | 11.94 | 11  | 1.88  | 1   | .82   | 18  | 17.45 | 41  | 40.89 | 21  | 20.89 | 28  | 28.54 | 49  | 43.88 |

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8: Coon E-5 (1929-30; 46-48) 1950 EGI Albania EGI Highland Chegs

|                                 | Total Series |       | MEM |       | DOK |       | MEJ |       | HAS |       | LUM |        | PUN |       | MIR |        | ZAD |        | MAT |       | DIB |       |
|---------------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|-----|-------|-----|--------|-----|--------|-----|-------|-----|-------|
|                                 | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %      | #   | %     | #   | %      | #   | %      | #   | %     | #   | %     |
| Total                           | 1087         |       | 105 |       | 108 |       | 104 |       | 114 |       | 100 |        | 102 |       | 101 |        | 100 |        | 104 |       | 100 |       |
| Forehead, slope                 |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| Forward                         | 9            | .84   | 2   | 1.90  |     |       | 1   | .96   | 3   | 1.76  |     |        |     |       |     |        | 1   | .90    | 1   | .90   | 3   | 1.83  |
| abs.                            | 33           | 3.09  | 7   | 6.67  | 1   | .94   | 3   | 2.88  | 7   | 6.14  | 1   | .92    | 3   | 2.94  | 3   | 1.90   | 3   | 1.90   | 3   | 2.88  | 4   | 3.70  |
| asm.                            | 8            | .75   |     |       |     |       |     |       |     |       | 1   | .92    |     |       | 1   | .90    |     |        |     |       | 3   | 2.78  |
| +                               | 304          | 28.49 | 36  | 34.10 | 34  | 31.06 | 38  | 36.32 | 36  | 31.58 | 34  | 32.82  | 30  | 29.41 | 19  | 17.82  | 31  | 29.00  | 39  | 34.82 | 37  | 34.29 |
| ++                              | 489          | 46.77 | 45  | 42.88 | 48  | 43.48 | 53  | 50.96 | 47  | 41.23 | 57  | 52.39  | 45  | 44.13 | 53  | 51.49  | 60  | 57.14  | 44  | 42.31 | 47  | 43.52 |
| +++                             | 200          | 18.75 | 13  | 12.38 | 23  | 21.70 | 18  | 17.31 | 20  | 17.54 | 28  | 23.85  | 19  | 18.63 | 27  | 26.73  | 30  | 28.57  | 17  | 16.35 | 14  | 13.08 |
| +++                             | 14           | 1.31  |     |       | 2   | 1.89  | 1   | .96   | 2   | 1.76  |     |        | 3   | 2.94  | 1   | .90    | 1   | .90    | 3   | 2.88  | 1   | .93   |
| Browridges, size                |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| sm.                             | 128          | 12.00 | 14  | 13.33 | 5   | 4.72  | 9   | 8.65  | 24  | 21.05 | 7   | 6.42   | 30  | 18.81 | 14  | 13.88  | 9   | 8.97   | 11  | 10.58 | 14  | 13.08 |
| +                               | 590          | 55.30 | 63  | 61.90 | 83  | 80.00 | 94  | 93.05 | 94  | 87.37 | 84  | 84.73  | 58  | 54.90 | 58  | 54.46  | 72  | 69.27  | 50  | 48.08 | 47  | 43.52 |
| ++                              | 312          | 29.34 | 24  | 22.88 | 43  | 40.57 | 32  | 30.77 | 47  | 41.23 | 37  | 33.84  | 34  | 33.53 | 38  | 37.72  | 34  | 32.88  | 40  | 38.48 | 38  | 34.87 |
| +++                             | 37           | 3.47  | 2   | 1.90  | 5   | 4.72  | 7   | 6.73  | 6   | 5.28  | 1   | .92    | 2   | 1.90  | 4   | 3.96   |     |        | 3   | 2.88  | 5   | 4.63  |
| Glabella                        |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| asm.                            | 5            | .47   |     |       |     |       |     |       |     |       |     |        |     |       |     |        | 1   | .90    | 2   | 1.92  | 2   | 1.89  |
| sm.                             | 140          | 13.12 | 14  | 13.33 | 5   | 4.72  | 10  | 9.63  | 24  | 21.05 | 10  | 9.17   | 22  | 21.57 | 17  | 16.83  |     |        | 11  | 10.58 | 10  | 9.41  |
| +                               | 590          | 55.30 | 68  | 64.76 | 84  | 80.84 | 96  | 93.05 | 97  | 90.00 | 83  | 87.80  | 83  | 81.98 | 58  | 54.46  | 73  | 69.27  | 50  | 48.08 | 41  | 38.48 |
| ++                              | 289          | 28.02 | 21  | 20.00 | 42  | 39.82 | 31  | 29.81 | 38  | 34.55 | 35  | 32.11  | 29  | 28.49 | 28  | 26.74  | 23  | 21.90  | 38  | 36.54 | 25  | 23.15 |
| +++                             | 33           | 3.09  | 2   | 1.90  | 6   | 4.72  | 7   | 6.73  | 5   | 4.39  | 1   | .92    | 1   | .90   | 3   | 2.97   |     |        | 3   | 2.88  | 4   | 3.70  |
| External eye folds              |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| abs.                            | 677          | 62.48 | 68  | 63.33 | 99  | 95.00 | 90  | 88.02 | 83  | 76.32 | 82  | 78.32  | 84  | 82.76 | 80  | 78.41  | 81  | 78.57  | 81  | 77.88 | 78  | 74.44 |
| sm.                             | 108          | 10.12 | 19  | 18.18 | 10  | 9.43  | 9   | 8.65  | 12  | 10.53 | 7   | 6.42   | 17  | 16.47 | 8   | 7.82   | 11  | 10.48  | 4   | 3.85  | 10  | 9.28  |
| +                               | 263          | 24.58 | 30  | 28.57 | 37  | 34.91 | 15  | 14.42 | 33  | 29.95 | 19  | 17.43  | 17  | 16.87 | 20  | 20.71  | 38  | 36.19  | 18  | 18.37 | 23  | 21.30 |
| ++                              | 30           | 1.97  |     |       |     |       |     |       | 6   | 5.28  | 1   | .92    | 4   | 3.92  | 4   | 3.96   | 5   | 4.76   |     |       |     |       |
| Eyefolds, epicanthus and median |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| Present                         | 11           | 1.03  | 1   | .95   | 1   | .94   | 1   | .96   | 3   | 2.63  |     |        | 2   | 1.90  |     |        |     |        | 2   | 1.92  | 1   | .93   |
| Absent                          | 1076         | 98.98 | 104 | 99.05 | 108 | 99.06 | 103 | 99.04 | 111 | 97.37 | 100 | 100.00 | 100 | 98.04 | 101 | 100.00 | 100 | 100.00 | 102 | 98.08 | 107 | 99.07 |
| Palpebral opening               |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| asm.                            | 14           | 1.31  |     |       |     |       |     |       | 5   | 4.39  |     |        | 2   | 1.90  | 5   | 4.90   |     |        |     |       | 2   | 1.85  |
| sm.                             | 583          | 54.64 | 51  | 48.57 | 83  | 78.30 | 40  | 38.40 | 82  | 71.92 | 84  | 84.84  | 86  | 84.80 | 58  | 55.45  | 84  | 81.42  | 38  | 32.85 | 64  | 60.28 |
| +                               | 467          | 43.77 | 54  | 51.43 | 23  | 21.70 | 84  | 81.84 | 27  | 23.68 | 54  | 49.54  | 42  | 41.18 | 60  | 59.00  | 49  | 46.87  | 89  | 86.33 | 42  | 39.80 |
| ++                              | 3            | .28   |     |       |     |       |     |       |     |       | 1   | .92    |     |       | 2   | 1.90   |     |        |     |       |     |       |
| Obliquity                       |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| abs.                            | 854          | 80.04 | 81  | 77.14 | 73  | 68.87 | 83  | 78.05 | 105 | 92.11 | 84  | 88.24  | 82  | 80.38 | 72  | 71.29  | 81  | 77.14  | 80  | 86.54 | 87  | 80.59 |
| asm.                            | 6            | .56   |     |       |     |       |     |       | 2   | 1.75  |     |        |     |       | 3   | 2.97   |     |        |     |       | 1   | .93   |
| sm.                             | 189          | 17.71 | 31  | 29.00 | 32  | 30.19 | 19  | 18.27 | 5   | 4.39  | 18  | 13.78  | 18  | 16.89 | 34  | 33.78  | 23  | 21.90  | 14  | 13.46 | 18  | 16.87 |
| +                               | 18           | 1.69  | 3   | 2.88  | 1   | .94   | 3   | 2.88  | 2   | 1.75  |     |        | 4   | 3.92  | 2   | 1.90   | 1   | .90    |     |       | 2   | 1.85  |
| Malaris, forwards               |              |       |     |       |     |       |     |       |     |       |     |        |     |       |     |        |     |        |     |       |     |       |
| asm.                            | 2            | .19   |     |       |     |       |     |       |     |       | 1   | .92    | 1   | .90   |     |        |     |        |     |       |     |       |
| sm.                             | 483          | 45.27 | 48  | 45.71 | 37  | 34.91 | 34  | 32.69 | 54  | 47.37 | 43  | 39.45  | 51  | 50.00 | 49  | 48.51  | 45  | 43.86  | 55  | 53.85 | 62  | 57.41 |
| +                               | 534          | 50.05 | 55  | 52.38 | 60  | 56.80 | 64  | 61.54 | 59  | 49.12 | 55  | 50.48  | 49  | 44.12 | 47  | 46.83  | 59  | 54.19  | 45  | 42.31 | 44  | 40.74 |
| ++                              | 48           | 4.50  | 2   | 1.90  | 9   | 8.40  | 6   | 5.77  | 4   | 3.51  | 10  | 9.17   | 5   | 4.90  | 6   | 4.95   | 1   | .90    |     |       | 2   | 1.85  |

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|                        | Total Series |       | MEM |       | DOK |       | MRJ |       | HAS |       | LUM |       | PUN |       | MER |       | ZAD |       | MAT |       | DER |       |
|------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                        | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                  | 1007         |       | 105 |       | 100 |       | 104 |       | 114 |       | 100 |       | 102 |       | 101 |       | 105 |       | 104 |       | 100 |       |
| Malaria, sideways      |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 0            | .00   |     |       |     |       |     |       | 1   | .00   | 2   | 1.00  | 1   | .00   | 3   | 1.00  |     |       |     |       |     |       |
| sm                     | 304          | 27.94 | 34  | 32.90 | 32  | 30.75 | 23  | 22.13 | 30  | 26.32 | 33  | 32.94 | 39  | 38.59 | 35  | 34.65 | 38  | 37.14 | 33  | 31.73 | 36  | 34.07 |
| +                      | 545          | 51.00 | 61  | 58.10 | 50  | 48.98 | 63  | 59.62 | 50  | 48.12 | 57  | 52.30 | 45  | 44.12 | 41  | 40.50 | 54  | 51.42 | 44  | 44.22 | 57  | 52.75 |
| ++                     | 321          | 20.71 | 20  | 19.05 | 20  | 23.58 | 19  | 18.27 | 27  | 23.98 | 29  | 32.94 | 20  | 19.61 | 22  | 21.78 | 12  | 11.43 | 29  | 24.04 | 20  | 22.10 |
| +++                    | 1            | .00   |     |       |     |       |     |       |     |       | 1   | .00   |     |       |     |       |     |       |     |       |     |       |
| Cheeks                 |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 4            | .37   |     |       |     |       |     |       | 1   | .00   | 1   | .02   | 1   | .00   | 1   | .00   |     |       |     |       |     |       |
| sm                     | 495          | 42.00 | 37  | 38.34 | 43  | 40.97 | 29  | 27.88 | 54  | 46.14 | 44  | 40.37 | 53  | 51.94 | 50  | 49.50 | 41  | 39.05 | 44  | 42.31 | 47  | 43.83 |
| +                      | 523          | 49.90 | 58  | 55.24 | 54  | 50.94 | 70  | 67.31 | 41  | 35.98 | 57  | 52.30 | 40  | 39.22 | 44  | 43.54 | 50  | 50.24 | 53  | 50.98 | 52  | 48.10 |
| ++                     | 75           | 7.03  | 10  | 9.92  | 9   | 8.69  | 5   | 4.81  | 8   | 7.03  | 7   | 6.42  | 8   | 7.84  | 8   | 5.94  | 6   | 5.71  | 7   | 6.73  | 9   | 8.32  |
| +++                    |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Wrinkling              |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 330          | 32.12 | 19  | 18.10 | 17  | 16.04 | 38  | 36.90 | 33  | 19.30 | 31  | 20.44 | 33  | 32.30 | 26  | 25.74 | 19  | 18.54 | 18  | 18.20 | 20  | 24.07 |
| sm                     | 300          | 24.30 | 41  | 20.05 | 55  | 51.80 | 39  | 24.42 | 37  | 23.08 | 39  | 25.78 | 29  | 24.31 | 31  | 30.00 | 23  | 20.48 | 43  | 41.26 | 33  | 30.59 |
| +                      | 395          | 38.06 | 40  | 38.10 | 38  | 28.42 | 59  | 37.80 | 82  | 48.01 | 50  | 27.52 | 35  | 24.31 | 31  | 30.00 | 49  | 46.87 | 59  | 58.54 | 43  | 38.81 |
| ++                     | 75           | 6.84  | 8   | 4.70  | 8   | 8.68  | 3   | 9.80  | 10  | 8.77  | 8   | 6.38  | 8   | 7.68  | 11  | 10.80 | 8   | 7.82  | 8   | 5.77  | 8   | 5.64  |
| +++                    | 3            | .20   |     |       |     |       |     |       | 1   | .00   | 3   | 1.00  |     |       |     |       |     |       |     |       |     |       |
| Genital angles         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 7            | .60   |     |       |     |       |     |       | 1   | .00   | 1   | .02   | 1   | .00   | 2   | 1.00  |     |       | 3   | 1.93  |     |       |
| sm                     | 270          | 25.31 | 25  | 23.81 | 29  | 27.38 | 25  | 24.04 | 22  | 18.30 | 17  | 15.00 | 32  | 31.37 | 27  | 26.70 | 23  | 21.43 | 27  | 25.96 | 27  | 26.00 |
| +                      | 591          | 55.39 | 57  | 54.20 | 61  | 57.89 | 65  | 62.50 | 74  | 64.81 | 69  | 62.90 | 48  | 45.16 | 51  | 50.50 | 60  | 58.07 | 53  | 50.98 | 50  | 48.10 |
| ++                     | 190          | 17.81 | 22  | 20.95 | 18  | 18.09 | 13  | 11.54 | 10  | 14.64 | 22  | 20.18 | 11  | 10.80 | 14  | 15.04 | 22  | 21.90 | 20  | 19.23 | 21  | 19.45 |
| +++                    | 9            | .64   | 1   | .05   |     |       | 3   | 1.93  | 1   | .00   |     |       | 1   | .00   | 2   | 1.00  |     |       | 2   | 1.93  |     |       |
| Ear lobes, type        |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Attached               | 348          | 32.23 | 38  | 36.10 | 38  | 35.95 | 46  | 43.27 | 27  | 23.90 | 38  | 34.88 | 39  | 38.39 | 38  | 37.72 | 39  | 37.62 | 34  | 32.90 | 30  | 27.78 |
| Free                   | 723          | 67.77 | 67  | 63.81 | 68  | 64.15 | 66  | 66.73 | 87  | 76.32 | 71  | 65.14 | 68  | 64.71 | 73  | 72.28 | 76  | 72.38 | 70  | 67.31 | 70  | 73.22 |
| Ear lobes, development |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 8            | .73   |     |       |     |       |     |       | 1   | .00   | 2   | 1.00  | 2   | 1.00  | 1   | .00   |     |       | 2   | 1.93  | 2   | 1.88  |
| sm                     | 427          | 40.02 | 53  | 50.46 | 45  | 42.45 | 41  | 39.43 | 20  | 21.94 | 43  | 38.53 | 34  | 32.32 | 45  | 45.54 | 25  | 22.33 | 46  | 38.48 | 50  | 48.30 |
| +                      | 870          | 83.42 | 81  | 78.87 | 87  | 83.77 | 81  | 78.65 | 84  | 76.14 | 87  | 82.89 | 80  | 77.84 | 84  | 83.65 | 80  | 78.00 | 80  | 78.73 | 49  | 48.27 |
| ++                     | 81           | 5.72  | 1   | .08   | 4   | 3.77  | 3   | 1.93  | 13  | 11.40 | 9   | 8.38  | 7   | 6.80  | 10  | 9.90  | 5   | 4.78  |     |       | 7   | 6.48  |
| +++                    | 1            | .00   |     |       |     |       |     |       | 1   | .00   |     |       |     |       |     |       |     |       |     |       |     |       |
| Nails                  |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 0            | .00   | 1   | .00   |     |       |     |       | 1   | .00   |     |       | 2   | 1.00  | 1   | .00   |     |       |     |       | 1   | .00   |
| sm                     | 0            | .00   | 1   | .00   | 1   | .04   | 1   | .00   | 1   | .00   |     |       |     |       | 2   | 1.00  |     |       |     |       | 1   | .00   |
| +                      | 314          | 29.42 | 32  | 30.48 | 33  | 30.19 | 44  | 42.31 | 31  | 27.19 | 39  | 36.81 | 39  | 38.44 | 34  | 33.70 | 17  | 16.19 | 41  | 39.42 | 25  | 22.41 |
| ++                     | 711          | 68.64 | 70  | 68.07 | 70  | 66.04 | 80  | 76.77 | 78  | 68.42 | 75  | 68.81 | 70  | 68.83 | 70  | 69.31 | 68  | 63.81 | 60  | 57.80 | 67  | 62.04 |
| +++                    | 30           | 2.81  | 1   | .08   | 3   | 2.83  | 1   | .00   | 3   | 2.62  | 5   | 4.50  | 4   | 3.92  | 4   | 3.94  |     |       | 3   | 2.86  | 5   | 4.93  |
| Anthelias              |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                    | 13           | 1.22  | 1   | .00   |     |       |     |       | 1   | .00   |     |       | 1   | .00   |     |       | 2   | 1.90  | 3   | 1.93  | 6   | 5.98  |
| sm                     | 123          | 11.53 | 8   | 5.71  | 8   | 8.40  | 8   | 8.77  | 10  | 13.10 | 14  | 12.84 | 12  | 11.78 | 7   | 8.03  | 14  | 13.33 | 21  | 20.19 | 17  | 15.74 |
| +                      | 849          | 78.57 | 88  | 81.90 | 96  | 89.43 | 90  | 90.30 | 88  | 77.19 | 88  | 80.73 | 85  | 83.32 | 78  | 74.30 | 84  | 80.00 | 75  | 73.13 | 73  | 68.07 |
| ++                     | 77           | 7.23  | 11  | 10.48 | 2   | 1.80  | 4   | 3.85  | 10  | 8.77  | 8   | 5.56  | 4   | 3.92  | 10  | 17.82 | 8   | 4.78  | 8   | 5.78  | 11  | 10.19 |
| +++                    | 3            | .20   | 1   | .00   |     |       |     |       | 1   | .00   |     |       | 1   | .00   |     |       |     |       |     |       |     |       |

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8: Coon E-5 (1929-30; 46-48) 1960 EGI Albania EGI Highland Chgegs

|                              | Total Series |       | MEM |       | DUR |       | MRJ |       | HAS |       | LUM |       | PUK |       | MYN |       | ZED |       | MAT |       | DIB |       |
|------------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                              | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                        | 1067         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 102 |       | 101 |       | 105 |       | 104 |       | 106 |       |
| Darwin's Point, left         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                         | 848          | 80.54 | 79  | 88.87 | 72  | 67.82 | 80  | 77.00 | 84  | 84.14 | 71  | 65.14 | 57  | 56.88 | 40  | 48.51 | 63  | 60.00 | 69  | 66.35 | 67  | 63.04 |
| sm                           | 172          | 16.12 | 19  | 18.10 | 31  | 19.81 | 23  | 22.12 | 17  | 14.91 | 15  | 13.18 | 23  | 21.57 | 18  | 17.82 | 15  | 14.29 | 7   | 6.73  | 13  | 12.04 |
| +                            | 230          | 20.82 | 14  | 13.33 | 13  | 12.28 | 20  | 19.23 | 33  | 28.18 | 31  | 18.27 | 21  | 20.80 | 30  | 29.70 | 36  | 24.76 | 28  | 26.00 | 23  | 21.30 |
| ++                           | 27           | 2.53  | 2   | 1.90  |     |       | 1   | .90   | 9   | 7.89  | 3   | 1.83  | 2   | 1.97  | 3   | 2.97  | 1   | .95   | 2   | 1.92  |     |       |
| +++                          | 2            | .19   |     |       |     |       |     |       | 1   | .88   |     |       |     |       | 1   | .99   |     |       |     |       | 1   | .93   |
| Darwin's Point, right        |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                         | 828          | 86.88 | 68  | 64.78 | 70  | 66.04 | 57  | 54.81 | 59  | 51.75 | 85  | 80.83 | 39  | 37.84 | 59  | 58.42 | 62  | 59.55 | 63  | 60.54 | 61  | 58.48 |
| sm                           | 144          | 15.37 | 16  | 13.24 | 23  | 21.70 | 38  | 18.23 | 17  | 14.91 | 18  | 13.76 | 22  | 21.57 | 11  | 10.88 | 18  | 14.29 | 12  | 11.84 | 10  | 9.28  |
| +                            | 346          | 33.06 | 19  | 18.10 | 13  | 12.28 | 38  | 25.00 | 39  | 26.44 | 37  | 24.77 | 17  | 16.87 | 27  | 26.73 | 38  | 24.76 | 28  | 26.92 | 33  | 30.96 |
| ++                           | 27           | 2.53  | 2   | 1.90  |     |       | 1   | .90   | 9   | 7.89  | 2   | 1.83  | 4   | 3.92  | 4   | 3.96  | 2   | 1.90  | 1   | .96   | 3   | 2.78  |
| +++                          | 2            | .19   |     |       |     |       |     |       | 1   | .88   |     |       |     |       |     |       |     |       |     |       | 1   | .93   |
| Lips; integumental thickness |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                           | 23           | 2.16  | 2   | 1.90  |     |       | 2   | 2.88  | 4   | 3.51  | 1   | .93   | 1   | .98   | 5   | 4.95  | 4   | 3.81  | 3   | 2.88  |     |       |
| +                            | 910          | 85.29 | 82  | 87.87 | 104 | 98.11 | 94  | 90.38 | 88  | 74.58 | 98  | 89.78 | 95  | 92.14 | 70  | 68.31 | 81  | 77.14 | 87  | 83.85 | 88  | 88.80 |
| ++                           | 133          | 12.47 | 11  | 10.48 | 2   | 1.89  | 7   | 6.73  | 25  | 21.83 | 10  | 8.17  | 8   | 5.88  | 28  | 25.74 | 20  | 19.05 | 12  | 12.50 | 13  | 11.11 |
| +++                          | 1            | .09   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Lips; membranous thickness   |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                         | 83           | 8.72  | 10  | 9.93  | 4   | 3.77  | 2   | 1.92  | 20  | 17.54 | 7   | 6.43  | 10  | 9.80  | 13  | 13.87 | 12  | 11.43 | 5   | 4.81  | 10  | 9.26  |
| sm                           | 19           | 1.78  |     |       |     |       |     |       | 7   | 6.14  | 3   | 2.75  |     |       | 1   | .99   |     |       | 4   | 3.85  | 4   | 3.70  |
| +                            | 454          | 42.88 | 84  | 82.38 | 47  | 44.34 | 43  | 41.39 | 41  | 35.98 | 38  | 34.86 | 49  | 48.04 | 51  | 50.50 | 43  | 40.90 | 58  | 58.77 | 46  | 43.88 |
| ++                           | 489          | 43.98 | 60  | 57.14 | 31  | 28.11 | 57  | 54.81 | 41  | 35.98 | 59  | 54.13 | 41  | 40.30 | 39  | 38.71 | 40  | 37.82 | 34  | 32.88 | 44  | 40.74 |
| +++                          | 31           | 2.91  | 1   | .95   | 4   | 3.77  | 2   | 1.92  | 5   | 4.39  | 2   | 1.83  | 2   | 1.98  | 7   | 6.83  | 1   | .95   | 3   | 2.88  | 3   | 2.78  |
| Lips; eversion               |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                         | 112          | 10.50 | 10  | 9.93  | 5   | 4.73  | 2   | 1.92  | 20  | 17.54 | 9   | 8.26  | 10  | 9.80  | 18  | 13.84 | 15  | 14.29 | 14  | 13.48 | 11  | 10.18 |
| sm                           | 14           | 1.31  |     |       |     |       |     |       | 7   | 6.14  | 1   | .92   |     |       |     |       |     |       | 2   | 1.92  | 3   | 2.78  |
| +                            | 453          | 42.48 | 33  | 31.43 | 44  | 41.51 | 43  | 41.39 | 44  | 38.60 | 39  | 35.79 | 54  | 52.94 | 48  | 46.51 | 41  | 39.05 | 53  | 50.98 | 47  | 43.88 |
| ++                           | 485          | 43.58 | 64  | 60.10 | 54  | 50.94 | 56  | 53.85 | 40  | 35.09 | 58  | 53.21 | 38  | 37.25 | 30  | 19.70 | 49  | 46.87 | 53  | 51.73 | 49  | 46.81 |
| +++                          | 23           | 2.18  | 1   | .95   | 3   | 2.83  | 3   | 2.88  | 3   | 2.63  | 2   | 1.83  |     |       | 8   | 4.95  |     |       | 2   | 1.92  | 1   | 2.78  |
| Total                        | 1068         |       | 105 |       | 106 |       | 104 |       | 114 |       | 109 |       | 102 |       | 101 |       | 105 |       | 104 |       | 106 |       |
| Chin, prominence             |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                           | 261          | 22.81 | 24  | 22.88 | 5   | 4.72  | 22  | 21.18 | 27  | 23.68 | 20  | 18.35 | 32  | 31.37 | 19  | 18.81 | 27  | 25.04 | 29  | 27.88 | 30  | 28.23 |
| +                            | 745          | 69.89 | 78  | 72.38 | 80  | 84.91 | 79  | 75.98 | 78  | 68.79 | 80  | 72.39 | 80  | 58.82 | 70  | 69.31 | 73  | 70.19 | 67  | 64.43 | 67  | 62.04 |
| ++                           | 79           | 7.41  | 4   | 3.81  | 11  | 10.38 | 3   | 2.88  | 12  | 10.53 | 9   | 8.26  | 10  | 9.80  | 13  | 11.88 | 4   | 3.85  | 8   | 7.69  | 5   | 4.63  |
| +++                          | 1            | .09   | 1   | .95   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Chin, type                   |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Median                       | 413          | 78.27 | 66  | 81.90 | 41  | 38.68 | 70  | 67.31 | 92  | 80.70 | 83  | 76.18 | 91  | 89.22 | 84  | 85.15 | 87  | 83.85 | 87  | 83.85 | 83  | 75.93 |
| Bilateral                    | 253          | 75.73 | 19  | 18.10 | 68  | 61.32 | 34  | 32.68 | 23  | 19.30 | 28  | 23.85 | 11  | 10.78 | 16  | 14.85 | 17  | 16.35 | 17  | 16.35 | 28  | 26.67 |

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8: Coon E-5 (1929-30; 46-48) 1950 EGI Albania EGI Highland Chege

|                                     | Total Series |       | MEM |       | DUK |       | MEJ |       | HAS |       | LUM |       | PUK |       | MIR |       | SAD |       | MAT |       | DEN |       |
|-------------------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                                     | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                               | 1087         |       | 105 |       | 105 |       | 104 |       | 114 |       | 100 |       | 109 |       | 101 |       | 108 |       | 104 |       | 108 |       |
| Nasion depression                   |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                           | 2            | .19   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 68           | 6.37  | 9   | 8.57  | 3   | 2.83  | 4   | 3.85  | 10  | 8.77  | 7   | 6.43  | 5   | 4.59  | 6   | 5.99  | 1   | .90   |     |       | 1   | .92   |
| +                                   | 320          | 29.89 | 38  | 34.79 | 30  | 28.30 | 30  | 27.80 | 38  | 33.33 | 34  | 31.19 | 30  | 28.01 | 39  | 38.71 | 30  | 28.33 | 30  | 28.43 | 42  | 38.89 |
| ++                                  | 532          | 51.74 | 89  | 84.19 | 30  | 27.17 | 87  | 84.81 | 50  | 50.80 | 84  | 80.72 | 86  | 84.71 | 89  | 88.01 | 84  | 81.43 | 48  | 43.27 | 48  | 43.80 |
| +++                                 | 123          | 11.93 | 11  | 10.40 | 22  | 21.70 | 14  | 13.46 | 8   | 7.03  | 4   | 3.67  | 11  | 10.76 | 14  | 13.86 | 12  | 11.43 | 11  | 10.68 | 11  | 10.16 |
| ++++                                | 2            | .19   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Nasal root, height                  |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 114          | 10.80 | 19  | 9.52  | 8   | 7.58  | 11  | 10.58 | 3   | 2.63  | 8   | 7.50  | 14  | 13.73 | 22  | 21.79 | 18  | 17.14 | 13  | 12.50 | 8   | 7.41  |
| +                                   | 728          | 68.05 | 72  | 68.57 | 73  | 70.78 | 74  | 71.19 | 80  | 78.44 | 78  | 71.88 | 81  | 79.41 | 80  | 78.41 | 79  | 68.97 | 83  | 80.50 | 80  | 75.84 |
| ++                                  | 309          | 29.29 | 31  | 30.00 | 31  | 29.81 | 19  | 17.81 | 23  | 20.18 | 22  | 21.10 | 6   | 5.88  | 10  | 17.82 | 12  | 14.29 | 38  | 35.00 | 37  | 34.26 |
| +++                                 | 19           | 1.89  | 2   | 1.90  | 2   | 1.89  | 1   | .90   | 2   | 1.78  | 2   | 1.83  | 1   | .90   | 1   | .99   | 2   | 1.90  | 2   | 1.93  | 3   | 2.78  |
| Nasal root, breadth                 |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 20           | 2.44  | 2   | 1.90  |     |       |     |       | 1   | .88   | 8   | 8.80  | 4   | 3.83  | 3   | 3.27  | 3   | 1.90  | 1   | .94   | 7   | 6.48  |
| +                                   | 504          | 47.24 | 34  | 32.38 | 50  | 47.17 | 42  | 40.38 | 55  | 48.23 | 53  | 48.42 | 50  | 48.62 | 62  | 61.29 | 43  | 48.88 | 47  | 48.19 | 56  | 51.11 |
| ++                                  | 494          | 46.30 | 58  | 56.18 | 52  | 49.08 | 58  | 56.77 | 56  | 49.12 | 48  | 42.30 | 41  | 40.20 | 38  | 39.64 | 55  | 62.38 | 59  | 60.50 | 50  | 47.78 |
| +++                                 | 43           | 4.03  | 10  | 9.52  | 4   | 3.77  | 4   | 3.85  | 2   | 1.78  | 4   | 3.67  | 7   | 6.88  | 38  | 39.64 | 5   | 4.78  | 1   | .94   | 5   | 4.83  |
| Nasal bridge, height                |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 1            | .09   |     |       | 1   | .94   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| +                                   | 48           | 4.31  | 4   | 3.81  |     |       | 5   | 4.73  |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| ++                                  | 550          | 51.74 | 80  | 87.14 | 59  | 56.23 | 8   | 8.77  | 2   | 1.78  | 4   | 3.67  | 5   | 4.80  | 4   | 3.94  | 8   | 7.82  | 5   | 4.81  | 3   | 2.79  |
| +++                                 | 370          | 34.88 | 35  | 33.33 | 37  | 34.81 | 83  | 88.82 | 97  | 90.00 | 83  | 87.71 | 87  | 89.88 | 82  | 81.48 | 83  | 86.48 | 47  | 48.19 | 59  | 54.17 |
| ++++                                | 98           | 9.19  | 6   | 5.71  | 7   | 6.60  | 5   | 4.81  | 10  | 13.18 | 9   | 8.28  | 4   | 3.83  | 11  | 10.88 | 8   | 7.82  | 14  | 13.48 | 19  | 17.58 |
| Nasal bridge, breadth               |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 31           | 2.91  | 3   | 2.88  |     |       |     |       | 2   | 1.78  | 5   | 4.80  | 4   | 3.83  | 3   | 3.07  | 3   | 2.88  | 1   | .90   | 10  | 9.28  |
| +                                   | 483          | 45.30 | 22  | 20.48 | 49  | 46.23 | 41  | 39.43 | 47  | 41.23 | 48  | 42.30 | 48  | 47.00 | 52  | 51.48 | 34  | 32.38 | 55  | 52.88 | 54  | 51.88 |
| ++                                  | 810          | 80.64 | 58  | 55.24 | 51  | 48.11 | 97  | 94.81 | 82  | 74.29 | 88  | 81.38 | 62  | 61.18 | 48  | 44.88 | 62  | 60.00 | 47  | 48.19 | 59  | 54.17 |
| +++                                 | 54           | 5.08  | 12  | 11.43 | 5   | 4.72  |     |       | 3   | 2.63  | 2   | 1.83  | 8   | 7.84  | 1   | .99   | 5   | 4.78  | 1   | .94   | 10  | 9.28  |
| ++++                                | 1            | .09   |     |       | 1   | .94   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Nasal Profile                       |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| cm                                  | 88           | 8.47  | 7   | 6.67  | 11  | 10.39 | 10  | 9.83  | 3   | 2.63  | 5   | 4.80  | 11  | 10.78 | 3   | 2.97  | 5   | 4.78  | 3   | 2.88  | 11  | 10.19 |
| str                                 | 416          | 38.89 | 40  | 38.10 | 47  | 44.34 | 47  | 45.19 | 43  | 38.47 | 44  | 40.37 | 42  | 41.18 | 44  | 39.60 | 38  | 34.29 | 38  | 37.38 | 33  | 30.84 |
| cov                                 | 971          | 93.82 | 88  | 82.38 | 48  | 45.38 | 47  | 45.19 | 88  | 87.88 | 88  | 88.08 | 48  | 47.08 | 58  | 57.43 | 48  | 48.88 | 58  | 58.77 | 62  | 57.41 |
| c-c                                 | 11           | 1.03  | 3   | 2.88  |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Nasal tip, thickness                |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sm                                  | 31           | 2.91  |     |       | 2   | 1.89  | 2   | 1.82  | 4   | 3.51  | 4   | 3.67  | 3   | 2.94  | 3   | 2.97  | 2   | 1.90  | 4   | 3.88  | 7   | 6.48  |
| +                                   | 372          | 34.87 | 24  | 22.88 | 38  | 35.88 | 32  | 30.77 | 48  | 40.38 | 23  | 20.28 | 43  | 42.18 | 40  | 39.88 | 29  | 27.82 | 29  | 27.38 | 48  | 42.88 |
| ++                                  | 548          | 51.28 | 37  | 34.29 | 52  | 48.08 | 82  | 80.82 | 57  | 50.00 | 64  | 58.72 | 68  | 65.18 | 63  | 62.48 | 62  | 59.08 | 48  | 48.23 | 43  | 39.88 |
| +++                                 | 115          | 10.78 | 24  | 22.88 | 14  | 13.21 | 8   | 7.88  | 7   | 6.14  | 8   | 7.34  | 10  | 9.80  | 5   | 4.88  | 12  | 11.43 | 15  | 14.43 | 12  | 11.11 |
| ++++                                | 7            | .69   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Nasal tip, elevation and depression |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Elevated                            | 801          | 80.38 | 40  | 38.10 | 53  | 50.00 | 60  | 57.69 | 84  | 75.44 | 78  | 69.81 | 84  | 82.78 | 83  | 81.68 | 47  | 44.78 | 90  | 82.31 | 88  | 85.84 |
| Depressed                           | 486          | 42.64 | 65  | 61.90 | 52  | 50.00 | 44  | 42.31 | 30  | 26.54 | 22  | 21.19 | 25  | 22.25 | 18  | 18.81 | 47  | 44.78 | 14  | 13.48 | 48  | 44.44 |

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8: Coon E-5 (1929-30; 46-48) 1957  
EC1 Albania EC1  
Highland Chegs

|                           | Total Series |       | MEM |       | DUK |       | MEJ |       | NAS |       | LUM |       | PUK |       | MER |       | ZAD |       | MAT |       | DEB |       |
|---------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                           | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                     | 1007         |       | 105 |       | 106 |       | 104 |       | 114 |       | 100 |       | 102 |       | 101 |       | 100 |       | 104 |       | 108 |       |
| Nasal wings               |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Compressed                | 383          | 35.90 | 25  | 23.81 | 23  | 21.13 | 23  | 22.12 | 24  | 21.07 | 30  | 27.53 | 48  | 45.10 | 41  | 40.80 | 33  | 31.43 | 43  | 41.35 | 53  | 49.07 |
| Medium                    | 623          | 58.38 | 71  | 67.62 | 62  | 58.49 | 78  | 73.08 | 55  | 48.25 | 74  | 67.88 | 49  | 46.04 | 50  | 49.41 | 63  | 59.60 | 58  | 55.77 | 49  | 45.37 |
| Flaring                   | 81           | 7.72  | 9   | 8.57  | 11  | 10.38 | 5   | 4.81  | 5   | 4.39  | 5   | 4.59  | 7   | 6.86  |     |       | 10  | 9.53  | 3   | 2.88  | 6   | 5.56  |
| Total                     | 1088         |       | 105 |       | 106 |       | 104 |       | 114 |       | 100 |       | 102 |       | 101 |       | 100 |       | 104 |       | 108 |       |
| Nasal septum, shape       |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| straight                  | 728          | 66.99 | 74  | 70.48 | 77  | 73.44 | 87  | 84.62 | 78  | 69.43 | 72  | 66.08 | 71  | 68.61 | 74  | 73.27 | 90  | 85.71 | 81  | 78.22 | 80  | 75.59 |
| curved                    | 238          | 21.71 | 31  | 29.53 | 29  | 27.56 | 17  | 16.38 | 36  | 31.56 | 27  | 23.94 | 31  | 30.39 | 27  | 26.73 | 10  | 14.29 | 23  | 22.78 | 28  | 26.44 |
| Total                     | 1065         |       | 105 |       | 106 |       | 104 |       | 114 |       | 100 |       | 102 |       | 100 |       | 100 |       | 104 |       | 108 |       |
| Nasal septum, inclination |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Up                        | 595          | 55.88 | 42  | 40.95 | 57  | 57.77 | 64  | 61.54 | 82  | 71.83 | 72  | 66.08 | 89  | 87.64 | 82  | 82.00 | 49  | 48.07 | 57  | 55.34 | 28  | 27.79 |
| Down                      | 465          | 44.04 | 62  | 59.05 | 49  | 46.23 | 40  | 38.45 | 32  | 28.07 | 27  | 23.94 | 13  | 12.16 | 18  | 18.00 | 51  | 53.33 | 47  | 44.66 | 80  | 75.20 |
| HL THE HEAD               |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                     | 1007         |       | 105 |       | 106 |       | 104 |       | 114 |       | 100 |       | 102 |       | 101 |       | 100 |       | 104 |       | 108 |       |
| Temporal fullness         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| sum                       | 2            | .19   |     |       |     |       |     |       | 1   | .88   | 1   | .92   |     |       |     |       |     |       |     |       |     |       |
| sm                        | 131          | 12.28 | 3   | 2.88  | 5   | 4.73  | 12  | 11.54 | 27  | 23.68 | 18  | 13.78 | 19  | 18.43 | 22  | 21.78 | 10  | 9.53  | 7   | 6.73  | 9   | 8.33  |
| +                         | 789          | 73.95 | 85  | 80.98 | 91  | 83.86 | 87  | 83.65 | 87  | 76.37 | 81  | 74.31 | 71  | 69.61 | 83  | 84.44 | 82  | 78.10 | 79  | 75.94 | 83  | 78.88 |
| ++                        | 142          | 13.31 | 16  | 15.24 | 10  | 9.43  | 5   | 4.81  | 19  | 16.67 | 12  | 11.01 | 13  | 11.76 | 22  | 21.78 | 13  | 12.38 | 16  | 15.38 | 16  | 14.81 |
| +++                       | 3            | .28   | 1   | .95   |     |       |     |       |     |       |     |       |     |       |     |       |     |       | 2   | 1.92  |     |       |
| Occipital protrusion      |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                      | 5            | .47   |     |       | 2   | 1.88  |     |       | 5   | 4.39  | 4   | 3.67  | 2   | 1.96  | 3   | 2.97  | 2   | 1.90  | 3   | 2.88  | 2   | 1.85  |
| sum                       | 21           | 1.97  | 1   | .95   |     |       |     |       | 3   | 2.63  | 2   | 1.83  | 2   | 1.96  | 3   | 2.97  | 2   | 1.90  | 3   | 2.88  | 2   | 1.85  |
| sm                        | 241          | 21.98 | 43  | 40.95 | 28  | 26.33 | 29  | 24.04 | 42  | 36.84 | 14  | 12.84 | 19  | 18.43 | 32  | 31.68 | 47  | 44.78 | 51  | 49.04 | 41  | 37.98 |
| +                         | 578          | 54.17 | 58  | 55.24 | 68  | 64.15 | 68  | 63.48 | 58  | 49.25 | 65  | 58.83 | 70  | 68.63 | 47  | 46.53 | 50  | 47.83 | 38  | 36.94 | 58  | 51.85 |
| ++                        | 116          | 10.87 | 3   | 2.88  | 9   | 8.49  | 13  | 12.50 | 12  | 10.53 | 24  | 22.02 | 11  | 10.76 | 17  | 16.83 | 9   | 8.57  | 10  | 9.62  | 9   | 8.33  |
| +++                       | 8            | .80   |     |       | 1   | .94   |     |       |     |       | 2   | 1.83  |     |       | 2   | 1.96  | 1   | .95   |     |       |     |       |
| Occipital flattening      |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                      | 737          | 69.07 | 83  | 79.52 | 84  | 79.25 | 83  | 79.81 | 83  | 72.81 | 85  | 77.08 | 82  | 80.39 | 70  | 69.31 | 85  | 82.38 | 80  | 77.69 | 78  | 69.44 |
| sum                       | 27           | 2.47  | 4   | 3.81  | 4   | 3.77  |     |       | 3   | 2.63  | 2   | 1.83  | 2   | 1.96  | 3   | 2.97  | 10  | 9.53  | 7   | 6.73  | 3   | 2.78  |
| +                         | 213          | 19.98 | 39  | 33.33 | 14  | 13.31 | 17  | 16.38 | 17  | 14.91 | 17  | 15.80 | 9   | 8.83  | 20  | 19.80 | 30  | 28.57 | 30  | 28.85 | 23  | 21.30 |
| ++                        | 70           | 6.58  | 12  | 11.43 | 4   | 3.77  | 4   | 3.89  | 10  | 8.77  | 5   | 4.59  | 3   | 2.96  | 1   | .95   | 4   | 3.85  | 4   | 3.85  | 8   | 7.48  |
| +++                       | 10           | .94   | 2   | 1.90  |     |       |     |       |     |       |     |       |     |       |     |       | 1   | .95   | 1   | .94   | 1   | .93   |
| Lambda flattening         |              |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Abs.                      | 897          | 85.95 | 73  | 69.52 | 39  | 36.79 | 54  | 51.92 | 48  | 42.11 | 80  | 72.88 | 74  | 72.58 | 57  | 56.44 | 83  | 79.80 | 53  | 50.95 | 58  | 53.70 |
| sum                       | 110          | 10.31 | 8   | 7.62  | 11  | 10.39 | 9   | 8.85  | 16  | 14.04 | 10  | 9.17  | 8   | 7.84  | 10  | 9.90  | 8   | 7.82  | 12  | 11.54 | 18  | 16.87 |
| +                         | 327          | 30.85 | 21  | 20.00 | 54  | 50.94 | 40  | 38.46 | 39  | 34.21 | 47  | 43.12 | 18  | 17.65 | 29  | 28.71 | 13  | 12.38 | 35  | 33.65 | 30  | 27.78 |
| ++                        | 31           | 2.91  | 3   | 2.88  | 2   | 1.88  | 1   | .98   | 11  | 9.65  | 2   | 1.83  | 2   | 1.96  | 4   | 3.96  | 1   | .95   | 4   | 3.85  | 1   | .93   |
| +++                       | 2            | .19   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |

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8: Coon E-5 (1929-30; 46-48) 1950 ECI Albania ECI Highland Chegs

|                                 | Total Series |       | MEM |       | DUK |        | MRJ |        | HAS |       | LUM |        | PUK |       | MR  |       | IAD |       | MAT |       | DUB |       |
|---------------------------------|--------------|-------|-----|-------|-----|--------|-----|--------|-----|-------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                                 | #            | %     | #   | %     | #   | %      | #   | %      | #   | %     | #   | %      | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total .....                     | 1067         |       | 105 |       | 106 |        | 104 |        | 114 |       | 100 |        | 102 |       | 101 |       | 105 |       | 104 |       | 106 |       |
| <b>Bathrocephaly</b>            |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                       | 756          | 71.04 | 83  | 88.57 | 86  | 82.83  | 38  | 55.77  | 80  | 70.18 | 63  | 57.80  | 84  | 82.36 | 71  | 70.30 | 94  | 89.52 | 78  | 75.00 | 75  | 89.44 |
| sm. ....                        | 5            | .47   |     |       |     |        |     |        | 3   | 2.63  | 1   | .92    | 1   | .98   |     |       |     |       |     |       |     |       |
| + .....                         | 291          | 27.27 | 12  | 11.63 | 48  | 45.28  | 44  | 42.31  | 28  | 24.56 | 44  | 40.17  | 18  | 15.69 | 39  | 38.71 | 11  | 10.49 | 28  | 25.00 | 31  | 38.70 |
| ++ .....                        | 7            | .66   |     |       | 2   | 1.89   | 1   | .98    | 1   | .88   | 1   | .92    | 1   | .98   |     |       |     |       |     |       | 1   | .83   |
| +++ .....                       | 8            | .76   |     |       |     |        | 1   | .98    | 2   | 1.75  |     |        |     |       | 1   | .98   |     |       |     |       | 1   | .83   |
| <b>Cranial asymmetry, left</b>  |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                       | 985          | 89.59 | 89  | 84.76 | 102 | 96.23  | 88  | 84.33  | 98  | 85.96 | 95  | 87.16  | 94  | 92.18 | 89  | 88.12 | 95  | 90.48 | 83  | 89.42 | 94  | 87.94 |
| sm. ....                        | 19           | 1.78  | 3   | 2.86  | 2   | 1.89   | 2   | 1.82   | 8   | 4.39  | 1   | .92    | 1   | .98   | 3   | 1.98  | 3   | 1.90  | 1   | .98   |     |       |
| + .....                         | 74           | 6.94  | 12  | 11.63 | 2   | 1.89   | 2   | 2.88   | 7   | 6.14  | 12  | 11.01  | 8   | 7.83  | 7   | 6.92  | 7   | 6.87  | 10  | 10.77 | 11  | 10.18 |
| ++ .....                        | 18           | 1.69  | 1   | .95   |     |        | 1   | .98    | 2   | 2.88  |     |        | 1   | .98   |     |       |     |       |     |       |     |       |
| +++ .....                       | 1            | .09   |     |       |     |        |     |        | 1   | .88   |     |        |     |       |     |       |     |       |     |       |     |       |
| <b>Cranial asymmetry, right</b> |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                       | 782          | 74.23 | 87  | 83.81 | 84  | 79.25  | 77  | 74.04  | 91  | 79.82 | 85  | 77.98  | 87  | 85.39 | 79  | 78.22 | 94  | 90.56 | 88  | 85.28 | 82  | 78.82 |
| sm. ....                        | 72           | 6.75  | 15  | 14.29 | 8   | 7.49   | 8   | 7.77   | 3   | 2.63  | 5   | 4.59   | 5   | 4.90  | 6   | 5.94  | 13  | 12.29 | 6   | 5.88  | 8   | 7.83  |
| + .....                         | 182          | 17.09 | 23  | 21.90 | 13  | 11.32  | 21  | 20.19  | 14  | 12.28 | 18  | 16.61  | 18  | 17.63 | 19  | 18.60 | 22  | 21.81 | 28  | 26.85 | 18  | 14.81 |
| ++ .....                        | 20           | 1.87  |     |       | 1   | .95    |     |        | 8   | 7.30  | 1   | .92    |     |       |     |       | 5   | 4.85  | 4   | 3.92  | 5   | 4.83  |
| +++ .....                       | 1            | .09   |     |       |     |        |     |        | 1   | .88   |     |        |     |       |     |       |     |       |     |       |     |       |
| <b>Facial asymmetry, left</b>   |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                       | 1029         | 96.44 | 102 | 97.14 | 106 | 100.00 | 103 | 99.04  | 108 | 94.74 | 102 | 93.58  | 101 | 99.02 | 100 | 99.01 | 94  | 90.42 | 101 | 97.12 | 101 | 93.52 |
| sm. ....                        | 1            | .09   |     |       |     |        |     |        | 5   | 4.39  | 5   | 4.59   | 1   | .98   |     |       | 1   | .98   | 2   | 1.92  | 4   | 3.70  |
| + .....                         | 28           | 2.72  | 5   | 4.76  |     |        | 1   | .98    | 5   | 4.39  | 2   | 1.82   | 1   | .98   | 1   | .98   | 7   | 6.87  | 2   | 1.92  | 4   | 3.70  |
| ++ .....                        | 8            | .75   |     |       |     |        |     |        | 1   | .88   |     |        |     |       |     |       | 1   | .98   | 3   | 2.88  |     |       |
| <b>Facial asymmetry, right</b>  |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs. ....                       | 1042         | 97.88 | 102 | 97.14 | 105 | 99.08  | 104 | 100.00 | 100 | 95.61 | 100 | 100.00 | 97  | 95.10 | 99  | 98.02 | 102 | 97.14 | 101 | 97.12 | 105 | 97.82 |
| + .....                         | 18           | 1.69  | 2   | 1.90  | 1   | .94    |     |        | 3   | 2.63  |     |        | 4   | 3.82  | 3   | 2.98  | 2   | 1.90  | 3   | 2.88  | 2   | 1.88  |
| ++ .....                        | 7            | .66   | 1   | .95   |     |        |     |        | 2   | 2.63  |     |        | 1   | .98   |     |       | 1   | .98   |     |       | 1   | .83   |
| <b>Handedness</b>               |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Left .....                      | 74           | 6.94  | 11  | 10.48 | 3   | 2.83   | 8   | 4.81   | 6   | 5.28  | 8   | 7.34   | 7   | 6.88  | 8   | 7.93  | 8   | 7.71  | 12  | 11.54 | 7   | 6.48  |
| Right .....                     | 988          | 92.41 | 83  | 88.57 | 103 | 97.17  | 89  | 85.19  | 107 | 93.88 | 100 | 100.00 | 94  | 92.18 | 91  | 90.10 | 86  | 84.29 | 83  | 88.48 | 100 | 92.86 |
| Ambi. ....                      | 7            | .66   | 1   | .95   |     |        |     |        | 1   | .88   | 1   | .92    | 1   | .98   | 2   | 1.98  |     |       |     |       | 1   | .83   |
| <b>IV. THE PILOUS SYSTEM</b>    |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Total .....                     | 1067         |       | 105 |       | 106 |        | 104 |        | 114 |       | 100 |        | 102 |       | 101 |       | 105 |       | 104 |       | 106 |       |
| <b>Eyebrows, thickness</b>      |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| sm. ....                        | 1            | .09   |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| sm. ....                        | 82           | 4.87  | 5   | 4.76  | 8   | 6.69   | 8   | 5.77   | 4   | 3.51  | 5   | 4.59   | 1   | .98   | 4   | 3.99  | 1   | .98   | 1   | .98   | 10  | 9.26  |
| + .....                         | 986          | 85.89 | 83  | 88.57 | 88  | 81.13  | 88  | 86.84  | 91  | 79.82 | 88  | 89.79  | 93  | 91.18 | 88  | 89.15 | 94  | 90.42 | 88  | 91.73 | 81  | 78.00 |
| ++ .....                        | 116          | 10.87 | 7   | 6.67  | 11  | 10.38  | 8   | 7.69   | 17  | 14.91 | 18  | 16.99  | 8   | 7.84  | 11  | 10.89 | 8   | 7.83  | 12  | 11.54 | 18  | 14.81 |
| +++ .....                       | 3            | .28   |     |       |     |        |     |        | 2   | 1.75  |     |        |     |       |     |       |     |       |     |       | 1   | .83   |

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## THE SERIES AS A WHOLE

### I. The Body

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OUR 1067 Gheg mountaineers range from the metric equivalent of 4 feet, 5 inches to 6 feet, 4 inches, with a mean at approximately 5 feet, 7 inches (169.7 cm.). This mean falls on the borderline between *medium* and *tall* in the standard classification of Martin.<sup>1</sup> For Europeans, they are tall. They are taller than most Tosks, although regional Tosk populations may turn out to be as tall. They are shorter than the Montenegrins and Bosnians immediately north and northwest of them, and about the same as the Dalmatians and the taller of the Tyrolese. Aside from their northern neighbors, only the Ukrainians, Scandinavians, and British are consistently taller among European populations. Native-born Americans are also taller.

The rather limited set of body measurements and indices available indicates a normal European position, but a little on the long-limbed and lanky side. In shoulder breadth, span, bi-iliac, sitting height, and derivative indices which relate to stature, these mountaineers resemble the Scandinavians and British more closely than the stockier central and eastern Europeans. Finding it impossible to persuade the majority of my subjects to maintain an "at rest" position while I was measuring their chest diameters, I measured them at full inspiration, and hence the figures are much higher than those of other series. I believe that most of these men had well-developed chests, as studied by any technique.

The 12 observations on body form give a more detailed if less objective picture (see table 4). The mean point is supposed to represent a hypothetical norm for Europeans. The general musculature is just about average; variation is not great. Necks are medium to short, and medium to thin; shoulders are on the square side of medium, chests a little larger than average. The back is unusually straight, with little lumbar curve; the abdomen rarely

<sup>1</sup> Martin, 1928, vol. 1, p. 255.

[See cat. 116, p. 54 f-54 g -- Analyst]

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[141] prominent, the buttocks medium to small, the calves well developed, the heels a little more projecting than expected, the foot arch about medium. This is a picture of an average man who has led an active out-of-door life in a hard but healthy environment, on a minimum of food which is nevertheless well balanced; he is muscular, lean, and accustomed to walking long distances over rough terrain. From the neck down it would be hard to distinguish him from a shepherd in the Scottish Highlands, a Norwegian from the fjord country, or an Appalachian mountaineer.

[147] Only one physiological test was made: dynamometer squeeze. Despite the cold weather, despite the stiffening of fingers through years of ploughing, the mountaineers produced a mean of 112 pounds, ranging from 45 to 190 (see table 9).

## II. The Face

[141] From the neck up the resemblance to Scot  
[144] and Norwegian would continue in most respects, but would disappear in others. In the more noticeable dimensions of the face it would be quite close. The Albanian mountaineers have moderately long faces, both in the distance from nasion to alveon (the point on the gums between the 2 upper median incisors) and from nasion to menton. It is hard to make close comparisons because individual anthropometrists vary greatly in locating these points. Comparing them with series of which one can be moderately sure that the same techniques were used, we see that the Ghegs are about the same in face length as populations which are predominantly Nordic or which represent the larger varieties of Mediterranean—like the English, the Riffians, and the Basques, and shorter faced than populations with an excess of marginal pre-Neolithic genetic elements, like the Irish and Norwegians. They are longer-faced than the small Mediterranean peoples like Spaniards and southern Italians. The upper face is relatively long in proportion to the total face height; this is usually, in Euro-

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144 pean populations, found among peoples who are predominantly Mediterranean in type, but not very different from the situation in some populations usually considered Nordic.

The minimum frontal diameter, the only measurement usually taken of the forehead, is another troublesome criterion from the technical standpoint. Variations in technique between anthropometrists render most comparisons specious. Using only series which we know to be comparable, one can easily see that the Ghegs, with a mean of nearly 109 millimeters, are broader in this dimension than the long-faced Europeans to whom they are also similar in stature and body build; most of the Mediterranean and Nordic series run to 102-106 millimeters. In the bizygomatic, which is difficult to get wrong, they are again more comparable to the larger and broader-faced European populations. Here they fit in with the larger-faced local populations of Norway and Ireland, and exceed standard Nordics and Mediterraneans. In the bigonial, however, this excess is much smaller. As a result the typical Gheg face, like that of the traditional Basque, looks like an equilateral triangle set on its apex (*frontispiece*)<sup>1</sup>

141 The nose height of the Ghegs is exceeded by few in Europe, or in the world. Several factors contribute to this position, including the fact that the nasal septum and tip among the older men were so depressed that age changes of the soft parts must have played a conditioning role in my measuring. At the same time the nose breadth is among the narrowest in Europe and the world, and the nasal index is extremely leptorrhine.

The ratio between forehead and face breadths (zygo-frontal) is high in all Dinaric series, the Ghegs included; it reflects the unusual width of the forehead. The zygo-gonial is even higher, for the same reason, coupled with the fact that the bigonial diameter is relatively less than the bizygomatic. The facial index of the present series falls on the borderline between Martin's categories of mesoprosopic and leptoprosopic—although the Gheg faces are large, their length-breadth proportions are moderate. This is not true of the nose, which has one of the lowest nasal indices on record, placing it in the hyperleptorrhine category.

1. See cat. No. facing title page -- Analysis]

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[128] Thirty-eight observations piece out this picture. Impressions of the foreheads of 1067 men show them to be for the most part of medium height and a little more than medium breadth, with a little less than medium slope on the average. The browridges run moderately large, and glabella is usually prominent. Eye-folds are usually absent, but when they do occur are almost always external, the so-called "Nordic" fold which is common with all narrow-faced Europeans. The almost complete absence of median and internal folds differentiates these people sharply from the Mongoloid and east Baltic populations of northeastern Europe. The wide opening of the eyeslit further emphasizes this difference. Almost one individual out of five shows a little eye obliquity, reminding one of Near Eastern Mediterranean types.

142 The face itself is characteristically gaunt; the malars rarely protrude forward and their lateral extension is only medium. The cheeks are medium to thin, and usually wrinkled, with firm lines around the mouth. The gonial angles protrude only to a normal extent judging by ordinary western European standards. This lean, drawn, and weather-beaten appearance of the face heightens the resemblance of these people to the Scots, Norse, and Basques. The 5 observations on the ears show nothing uncommon for Europeans. The lips run a little above medium in integumental (muscular) thickness, and unusually thin in membrane, reflecting probably bite and eating habits as much as race; they are also less everted than in the normal run of familiar European whites. The lips of the Ghegs look more like those of family portraits of the Revolutionary period than like those of modern Americans. The observation on chin prominence is based on actual slope rather than on fidelity to an ideal mean; the presence of 23 per cent of *sm* chins is no greater than would be found in any other narrow-jawed European population. Most of the chins are median; the bilateral form (discovered through palpation) goes with the Alpine and other pre-Mediterranean types in Europe as well as with individuals of unusual robusticity.

The most distinctive feature of the Mountain Gheg face, the nose, almost never springs from glabella without depression, according to

See cat. 116 pp. 549-54h. - Analpt

142 the Greek ideal. Although not unusually high, its root is exceptionally narrow. Its bridge is usually both high and narrow. This combination yields a high frequency, in fact a majority, of convex nasal profiles, giving the Gheg his traditional hawklike appearance. The tip of the nose is medium to thin, more often straight or elevated than depressed, with medium to compressed wings and usually a straight septum. This nose, as the forward segment of a gaunt, triangular face, gives the classical Dinaric his impressive facial appearance.

### III. The Head

● 141 So far we have found only a few measurements and observations to differentiate the ordinary Gheg mountaineer from the shepherd of the Scottish Highlands, the Basque, and the inland Norwegian to whom we first compared him. When we remove his felt cap, however, and study his head, we find that the resemblance ceases. His head is 10 whole millimeters shorter than those of his Atlantic-bordering simulacres, resembling in this respect eastern and central European peoples, and the inhabitants of Armenia, Anatolia, parts of the Caucasus, and the Lebanon. At the same time it is much broader, in fact it is among the broadest heads in Europe. It is difficult to find its exact position regarding height, since head height is notoriously subject to the personal equation. Judging by only those series of which I am sure, I consider the Gheg heads moderately to more-than-average elevated. They do not, however, reach the extremes in this dimension that they do in length and breadth. In the indices of the head, these people are fully brachycephalic, although less extreme in this respect than some of their neighbors, notably the Tosks and some of the mountain-dwelling Yugoslavs, among whom mean indices of 87 and 88 have been recorded. In the length-height indices they rank as hypsi-cephalic, while in the breadth-height index they take a low position. This merely reflects the moderate head height in comparison with an extreme cranial breadth. The indices which serve to compare the parietal breadth with facial diameters—fronto-parietal and cephalo-facial—both emphasize the disproportion between a very broad hind-head and moderate facial breadths. The fronto-parietal and cephalo-facial indices, relating the forehead

• 141 and face breadths to that of the rear segment of the head are low, but not unusually so, because the forehead and zygomatic arches are also somewhat wider than the thin appearance of the face would lead one to suspect.

We have seen already that the forehead tends to be a little straighter, or less sloping, than with most of the hawk-visaged non-Dinaric European peoples; this fullness of the forehead is matched by a correspondingly well-developed temporal fullness. At the rear, however, the skull shows a tendency for less than the normal degree of occipital protrusion, and in 31 per cent of individuals the occiput is actually flattened. An even greater ratio, 44 per cent, show flattening in the lambdoid region, and in 29 per cent of cases we find the anomaly known as bathrocephaly, which is a failure of the parietal bones to unite smoothly with the occipital at lambda, with a shelf or depression at the critical point, reminding one of a softball that has been knocked lopsided and started to come unstitched. The back of the head is clearly the most unusual and hence interesting portion of the Gheg anatomy. The same would be true of course in the case of Dinarics and Armenoids from other countries.

A further fact that seems highly suggestive is that 36 per cent of our subjects (most of whom, as we shall see later, possess some kind of flattening) have noticeably asymmetrical skulls. Were this asymmetry a normal variant from the usual condition, one would expect more individuals in the *sm* than in the *plus* categories, but this is not the case; asymmetry itself seems to have a normal distribution wholly aside from the absent category. Furthermore, it is 2.4 times as frequent on the right as on the left side, which suggests a functional association. Facial asymmetry, on the other hand, is very rare, accounting for only 6 per cent of the whole, and without significant distinction between right and left. Handedness was determined by asking the men to pick up a stone, by tossing them a stick, etc. Most were illiterate, and the choice of hand for eating was dictated by custom. The 7.6 per cent of left handed and ambidextrous is undoubtedly far too low a number—conditioning probably affected catching, throwing, and picking things up to a certain extent too. The ratio shown by the cranial asymmetry is probably nearer the truth genetically.

- 142 one could compare a series of skeletons of such men with those from the Illyrian Iron Age cemetery at Glasinac, it is hard to see what differences between the means would appear except for the greater frequency of broad, and often occipitally flattened, heads in the living population.

*VARIABILITY OF THE SERIES AS A  
WHOLE AND OF THE TRIBES*

- 141 Any living population may be expected to show a normal frequency distribution in each metrical criterion. This distribution is expressed by the standard deviation (see table 3a).  
\* 128 Standard deviations themselves vary. If the standard deviation exceeds a certain nu-

2[see cat No, pp. 54d-54e -- Analyst]

8:Coon E-5 (1929-30;46-48)1930 EG1 Albania EG1  
Highland Ghegs

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merical value, one is led to suspect that the series includes individuals from not one, but several populations, which differ from each other in the criteria concerned.

In order to provide an easy test for this, Howells<sup>2</sup> has compiled a table of means of standard deviations for a large number of series, each of which consists of over 50 individuals; he has likewise devised the "sigma ratio," to compare individual sigmas with the mean. Table 5 shows how this may be applied to our Albanian material. In most of the measurements and indices of the face, our Mountain Ghegs possess, as a whole, a normal

<sup>2</sup> Howells, 1936, pp. 592-600.

<sup>1</sup>/<sub>A</sub> [see cat. 116, p 62e - Analyst]

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degree of variability. In one character, the nasal index, they possess a remarkable homogeneity. In stature, head length, head breadth, and the cephalic index, they show a greater variability than might be expected from a normal unit population. This is particularly marked with the cephalic index. Thus, using variability as our criterion, we find that the *Mountain Ghegs are a population as far as the diameters and proportions of the face are concerned, but not when stature and the dimensions and form of the cranial vault are considered.*

If they are not a population, then they are a compendium of populations, which may or may not be the tribes. In most criteria the tribes show a range of variation on either side

8:Coon E-5 (1929-30;46-48)1950 EG1 Albania EG1  
Highland Ghegs

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of the 100 mark; in the nasal index all fall far below; in the cephalic index all fall far above. The nose height is always more variable than Howell's mean, and tribal variations in the cephalic index reach remarkable heights. From this we may deduce that *the variation in stature is due to the regional size differences which we have already seen, that the variation in cephalic index is due to some factor operating within tribes as well as between them, while the extraordinary homogeneity in nasal index is connected with a great variability in the nose height, which varies with the nose breadth instead of independently.*

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It is conceivable that the tribes themselves differ in amount of variability. In order to test this let us turn to table 3c. If we average the values of V for 32 characters, from stature to nasal index, we obtained the following (see table 6).

TABLE 6: VALUES OF V FOR 32 CHARACTERS,  
BY TRIBES.

|                     | Mean V |
|---------------------|--------|
| Total series .....  | 5.26   |
| Mean of tribes..... | 5.09   |
| MeM .....           | 5.13   |
| Duk .....           | 4.95   |
| Mej .....           | 4.95   |
| Has .....           | 5.37   |
| Lum .....           | 4.84   |
| Puk .....           | 5.14   |
| Mir .....           | 4.97   |
| Zad .....           | 5.14   |
| Mat .....           | 5.32   |
| Dib .....           | 5.11   |

As a whole, the tribes are less variable than the total series. Only 2 tribes, Has and Mati, form exceptions to this rule. The Has sample was taken from a single locality, the Mati one from a widespread and religiously diverse population. But even with them only one coefficient of variation is significantly greater than its mate in the total series: Has is more variable in head height than the total series by 4.71 times p. e.

Four tribes are notably less variable than the whole; Luma, Dukagin, Malsia e Jakovës, and Mirdita. *Two of these are our only 100 per cent Catholic tribes, noted for their genetic isolation.* On this basis their relative homogeneity is understandable. But Luma and Malsia e Jakovës are mostly or wholly Moslem, and situated on the main traffic routes. How do they differ from the others? The answer, which forms part of the next section, is simple: *they are the least brachycephalic of all the tribes.* It is in the area of the cranial vault that much of our tribal differentiation lies.

\*Elaborate tables have been prepared to show the significance ratios of the differences between means of all metrical characters of all tribes, and the same for all categories of percentages in the observations. The cost of publishing such tables is prohibitive. In the [contin p. 63b--  
[see cat. 116, p. 54e -- Analyst] [cat. 116] -63a-

PHENOTYPICAL DIFFERENCES  
BETWEEN TRIBES; STATISTICAL  
VALIDATION

141 Let us examine the geographical distribution of anthropometric characters among the tribes. We must not forget that the total area is no larger than Connecticut, that the population of this miniscule region has seen no foreign invasions, no infiltrations or immigrations, for at least 400 years, and that it may be derived historically from a single known source. Under ordinary conditions one would not expect to find wide physical differences. But the conditions in Malsia e Ghegnisë are not ordinary. The people, as we have seen, live in narrow, mutually isolated valleys, marrying within restricted genetic channels, and eating the products of local and mutually differing soils.

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#128 The result is what one might be led to expect. The samples from the 10 tribes differ more from each other than do the native-born white Americans of native parentage within the 48 states. And these differences are so great that each tribe forms a statistically separate population from all others. We are dealing with 10 different populations, phenotypically. Evidence for this can be presented briefly.<sup>3</sup>

In each measurement and index listed on table 3C, 45 possible intertribal differences may be found. Each tribe also differs from the total series, making 55 differences for each criterion. The number of significant (3 or more times p.e.) differences out of a possible 10 and 45 are as shown in table 7.<sup>3</sup>

The figures show that the 10 tribes of Mountain Ghegs differ from the total series significantly in nearly four-tenths of all criteria measured, and from each other in even more. Four per cent is the proportion in this category allowed by chance alone.<sup>4</sup> Differences are far greatest in the gross size dimensions of the body, not including the special measurements of the chest. Body proportions vary less than size itself. Above the neck, the 3 principal

[continued from 03a -- Analyst]

following pages of this chapter, parts of them will be summarized. The author will keep them on file on the chance that some one may wish to refer to them in the future.

<sup>4</sup> Goring, 1913.

1 [see cat. 116, p. 54e  
-- Analyst]

2 [see cat. 116, p. 114a  
-- Analyst]

TABLE 7: NUMBER OF SIGNIFICANT  
DIFFERENCES.

|                            | TOTAL | EACH<br>OTHER |
|----------------------------|-------|---------------|
| Maximum possible.....      | 10    | 45            |
| Stature .....              | 6     | 30            |
| Span .....                 | 8     | 32            |
| Sitting ht.....            | 6     | 28            |
| Biacromial .....           | 7     | 29            |
| Bi-iliac .....             | 4     | 25            |
| Chest br.....              | 3     | 18            |
| Chest depth.....           | 2     | 22            |
| Rel. span.....             | 5     | 17            |
| Rel. shoulder ht.....      | 2     | 13            |
| Rel. shoulder br.....      | 4     | 22            |
| Rel. sitting ht.....       | 3     | 17            |
| Head lgth.....             | 7     | 28            |
| Head br.....               | 5     | 25            |
| Head ht.....               | 3     | 21            |
| Minimum frontal.....       | 5     | 20            |
| Bizygomatic .....          | 4     | 17            |
| Bigonial .....             | 1     | 11            |
| Total face ht.....         | 3     | 21            |
| Upper face ht.....         | 2     | 11            |
| Nose ht.....               | 3     | 21            |
| Nose br.....               | 3     | 15            |
| Cephalic index.....        | 6     | 30            |
| Length ht. index.....      | 4     | 21            |
| Breadth ht. index.....     | 7     | 26            |
| Fronto-parietal index..... | 4     | 21            |
| Cephalo-facial index.....  | 3     | 19            |
| Zygo-frontal index.....    | 2     | 7             |
| Fronto-gonial index.....   | 2     | 6             |
| Zygo-gonial index.....     | 2     | 5             |
| Facial index.....          | 4     | 25            |
| Upper facial index.....    | 3     | 25            |
| Nasal index.....           | 2     | 13            |
| Total                      | 125   | 641           |
|                            | (320) | (1760)        |

BY CLASSES OF CRITERIA: PERCENTAGE OF ALL  
POSSIBLE SIGNIFICANT DIFFERENCES

|                                   | TOTAL | EACH<br>OTHER |
|-----------------------------------|-------|---------------|
| 5 Stand. body meas.....           | 62%   | 52%           |
| 4 Stand. body indices.....        | 35    | 38            |
| 2 Diam. of chest.....             | 25    | 44            |
| 3 Diam. of brain case.....        | 50    | 55            |
| 3 Indices of brain case.....      | 57    | 50            |
| 7 Face diam.....                  | 30    | 37            |
| 3 Indices of facial br.....       | 20    | 13            |
| 3 Sagittal-br. indices of face... | 30    | 47            |
| 2 Head-face indices.....          | 35    | 44            |
| 32 Criteria, total.....           | 39%   | 45%           |

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diameters of the brain case and their indices are most divergent. The horizontal diameters of the face and their indices differ the least; if a decision rested on them alone it would be hard to demonstrate racial differentiation in the Gheg mountains. Sagittal diameters of the face, and the sagittal-horizontal indices, differ more.

From this we may say that in 3 respects the tribes vary metrically from the total and from one another: (1) in body diameters, greatly; (2) in brain case diameters and indices, nearly as greatly; (3) in the gross lengths of the face—particularly from nose to chin—and in indices dependent on these measurements, to a lesser extent. In one respect the tribes show a degree of relative homogeneity—in the constancy of the horizontal diameters of the face. Even here, however, they differ more than chance alone would warrant.

A similar test has been made of intertribal differences in 78 observations given on table 4; here the differences between tribes and total were not calculated—the method used was to calculate the probable errors of percentages by the tables of Ritala,<sup>8</sup> and to test the significances of the differences between them.

Table 8 demonstrates that clear intertribal differences are harder to demonstrate in the observations than in the metrical characters, perhaps by virtue of the nature of the criteria themselves. Since 4 per cent of the differences over 3 p.e. can be ascribed to chance in any case, and since an equal allowance might well be made for technical inaccuracy, differences in cleanliness, in appearance at different temperatures, and light conditions, etc., I find it hard to claim valid regional differences in classes of criteria where fewer than 8 per cent of combinations are over 3 p.e. In face form, in nasal architecture, in hair development, form, and distribution, and in pigmentation, what regional differences occur seem to be of little consequence. These characters are precisely those which most anthropologists feel to be genetic. In these respects, therefore, our Gheg mountaineers are as homogeneous as their history would lead us to expect.

3 [See cat. 116, pp. 54 f -  
54 g - Analyst]

2 [See cat. 116, p. 65 b  
-- Analyst]

<sup>8</sup> Ritala. 1933.

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In the observations of the body and of the brain case, however, they differ more than chance and technical error would justify. In these easily influenced characters, regional phenotypes exist.

#### REGIONAL VARIATIONS IN BODY SIZE AND FORM

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The main difference in body size lies in the north-south cleavage between the tribes living on either side of the Drin. Those to the north are a good 6 centimeters taller than those to the south. These differences are greater to the west than to the east, so that 3 areas may be postulated; a tall northwestern, an intermediate eastern, and a short southwestern. These areas differ also in body proportions, in that the northwestern tribes (Malsia e Madhe and Dukagin) are broad-shouldered and long-armed as well, while the eastern tribes, including Malsia e Jakovës, while tall, are slenderer and narrower in the shoulders, with the south-westerners in these criteria short and slender. The acme of robusticity is reached in Dukagin, whose athletic tribesmen exceed all others to a marked degree in these special criteria. Although we lack constants for weight, which would be most valuable here, we have the evidence for dynamometer squeeze, which reveals their superiority in muscular strength (see table 9).

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Dukagin men are a little stronger than those of Malsia e Madhe, but this difference is not significant. However, both Dukagin and Malsia e Madhe are significantly stronger than all of the other tribes. Among the others, Has, Luma, and Puka are all 3 stronger than Mati and Mirdita; Puka is stronger than Zadrime as well, and Malsia e Jakovës is stronger than

\* [See cat. 116, p. 65 c  
-- Analyst ]

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\*128 Malsia e Jakovës the least so. Has stands out as moderately tall and very chesty. The vertebral borders of the scapulae, supposed to have much significance from the standpoint of general health and vigor, vary little. The lumbar curve is most pronounced in the tribes north of the Drin. None of the Gheg mountaineers had enough to eat to produce protuberant abdomens—in this criterion variation is non-existent. In general, buttocks are plumpest north of the Drin, where lumbar curve is greatest and hence pelvic tilt most pronounced; these differences between tribes in lumbar curve and buttock protrusion are more marked than any others. Calves are most developed in Dukagin and Mirdita, among the tallest and shortest tribesmen, respectively. The feet show little variability.

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\*128 To sum this data up, we find tall men north of the Drin, with stature decreasing rapidly as one moves southward; to the east, the gradient of change is much less marked than in the west. In fact, 3 stature areas may be designated: the northwest, the east, and the southwest. In these 3 areas, in general, the most robust are the big men of the northwest, while the easterners tend to a lankier form. Dukagin stands out above all the others for strength and athletic development, followed closely by the *bairaks* of Malsia e Madhe. Mirdita, followed by Mati and Zadrima, lies at the other extreme. These regional differences are as great as those between Norway and France, or England and Greece.

#### REGIONAL VARIATIONS IN THE CRANIAL VAULT

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\*128 The head length means vary nearly 7 millimeters, the breadth means 6 millimeters, and the height 4 millimeters, tribally. These differences are significant in 28 out of 45 cases for head length, 25 out of 45 for head breadth, and 21 out of 45 for head height. Heads are longest in the northwest, intermediate in the east, and shortest in the southwest. They are broadest in the northwest and more or less the same elsewhere; in height they exceed in Zadrima and Malsia e Madhe, and are lowest in Mati and Dibra, following in general a NW/SE axis.

These regional variations come out even more markedly in the cephalic index, in which

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31 out of 45 tribal differences (69%) are significant, and in which the westernmost tribes are 3 to 4 index points more brachycephalic than the eastern. In the length-height index only 21 (47%) are significant, the range of means is 4 points, and only Zadrime shows any notable peculiarity. In the breadth-height index the trend is a little more marked: 26 (58%) are significant, and the range again 4 points. In general, head length varies with stature, and head breadth goes east and west, as does the cephalic index, while height indices fail to show a clear geographical pattern.

The observations on the cranial vault elucidate these tendencies in detail: Luma and Puka exceed in occipital protrusion, in which Zadrime, Malsia e Madhe, Has, Mati, and Dibra are notably wanting; Malsia e Madhe, Zadrime, and Mati are high in occipital flattening, while Dukagin, Malsia e Jakovës, Luma, and Puka are low in it. In lambdoid flattening, however, Dukagin is highest, followed by the tribes to the east. The frequencies of these 2 forms of flattening are high enough to account for much of the difference in head form shown by the measurements and indices. How much, will be explored later.

#### REGIONAL VARIATIONS IN THE FORM OF THE FACE

Malsia e Madhe has significantly broader foreheads than all of the other tribes, which vary little, growing slightly narrower to the east and south. Nine out of 20 of the significant differences between the tribes in this measurement are caused by the peculiarity of Malsia e Madhe. In the bizygomatic, Malsia e Madhe and Dukagin, both broad, account for 12 out of 17 of the significant differences; Dibra, the narrowest, is significantly different from all but 3. The bigonial is the most constant of all measurements, and Dukagin, the widest jawed, accounts for 6 out of 11 significant differences. Only one difference, Dukagin: Dibra, goes over 4 times p.e. One may summarize these differences in face breadth by saying that in general the broadest faces are in the northwest and the narrowest in the southeast; that the greatest differences are in the upper part of the face and the least in the lower.

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In the heights of the face, one tribe stands apart from the others: Has. It has the longest total and upper face heights, by far, of all. In the total face height it accounts for 8 out of 22 significant differences; in the upper face height, 9 out of 11. If we ignore Has, the others are much the same, with the shortest faces, in both dimensions, in the southwestern tribes. Here, then, the dichotomy is, Has versus all others.

The fronto-parietal index, showing the relationship between head breadth and forehead breadth, varies only 2 index points, and as might be expected the broadest-headed tribes have the lowest values, and the narrowest-headed the highest. No single tribe or group of tribes distinguishes itself in this character. The cephalo-facial index, relating head breadth to face breadth, runs much the same way, with equally little variation. The zygo-frontal index scarcely varies at all, and all 6 of its significant differences are due to the fact that Mirdita falls one index point below most of the others, on account of its face breadth, which is a little broader for its size than the others. The fronto-gonial and zygo-gonial indices are even more constant. Four out of 6 significant differences in the former are due to the broad foreheads of Malsia e Madhe, and all 4 in the latter to Mirdita's combination of a medium face breadth and the narrowest mandible of all. *We may consider the Mountain Gheg phenotype a unit in these horizontal proportions of the head and face*, with very slight deviations in the cases of Malsia e Madhe and Mirdita.

The observations of these characters help even more. In the height and slope of the forehead, almost no differences of statistical validity occur, while in the observed breadth of the forehead Luma, Puka, and Malsia e Jakovës come out low in the percentage of double and triple plus breadths. No differences of moment are seen in the size of the browridges or in glabella; the forward jut of the malars, the fullness or wrinkling of the cheeks. In the sidewise thrust of the malars and in the prominence of the gonial angles, not one single significant difference can be found in the percentile values of any category. In the morphological observations which relate to the gross architecture of the face, exclusive of the eyes, nose, and mouth, the tribes are as one.

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If we move down to the chin, however, one tribe differs from all others: Dukagin has fewer *sm* values for chin prominence than any other tribe, and all these are significant; it also has more bilateral chins than all others, and its excess is significant in each case. The chin of Dukagin stands as a notable exception to the otherwise uniform position of the Mountain Ghegs in face structure. That prominent, bilateral chins should be associated with an excess of size and strength is not surprising.

The noses of the Ghegs vary about 3 millimeters in height, and  $1\frac{1}{2}$  millimeters in breadth; Has, as might be expected, has the longest noses, but it also has the broadest. Nine out of 21 significant differences in nose height are due to Has, and 6 out of 17 in breadth. The nasal index varies about 4 points, with the lowest values in the east and the highest in the west, but all approximate the lowest human extreme. Out of 13 significant differences, 6 are due to the fact that Dukagin is highest.

The observations of the nose, which carry our study into minute detail, confirm the remarkable regional constancy of form of this organ. In nasion depression there are no significant differences at all; and there are none in that most critical character, the form of the nasal profile. In root height and bridge height, Dibra shows a slight excess over a few others; Dibra is also a little narrower in the bridge breadths, accounting for 8 out of 10 significant differences in this character. Malsia e Madhe accounts for 7 out of 8 such differences in tip thickness, for it is slightly thicker than the others; the eastern tribes are a little thinner. Twelve out of 22 differences in tip position reflect the greater sag in the Has nose, a difference for which we shall presently account. In the form of the nasal wings, another highly significant character, not one tribe has more flaring forms, in a statistical sense, than any other; the few differences between the compressed and medium categories show an excess of the compressed form in Has and Dibra. The shape of the septum is constant, except for Zadrime, which is significantly straight compared to all of the eastern tribes; in the inclination of the septum, the western tribes, Malsia e Madhe, Zadrime, and Mirdita, show a significant tendency to turn down in comparison with those to the east.

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A few features of the soft parts of the eyes show significant tribal variation. The western tribes, particularly Zadrima, Malsia e Madhe, and Dukagin, have large minorities with external eyefolds, rare in the east and in Mati. Men from Dukagin tend to narrow their eyelids to slits, and this accounts for 14 out of 28 significant differences in palpebral opening. The same tendency in Has accounts for 9 of the rest. In the case of Dukagin, at least, part of this may be due to the fact that I measured them in the snow, in bright sunlight. Most of the tribes had 20 to 30 per cent of slight eye obliquity, but Has with only 8 per cent was significantly below the others. This obliquity was not up, Mongol-wise, but down, as is usual in narrow-faced Europeans.

The lips show a few local differences only: Dukagin has thicker integumental lips than the others, in 18 out of 23 significant cases; Has runs low and Malsia e Madhe high in membranous thickness, to a very minor degree in each case; Malsia e Madhe and Malsia e Jakovës have a little more lip eversion than the others. Only a few of these differences reach 3 times p.e., and only one attains 4. Except for Dukagin's thick upper lip, we can ignore the rest.

Turning to the ears, we find no differences of consequence. We have 6 observations, in all of which only 20 differences of 3 times p.e. or over are found, out of a total of 810 computed. Of these only 4 are over 4 p.e., and one reaches 5 p.e. We may say with confidence that the Gheg tribes are alike in the frequency of the component factors in ear form.

#### REGIONAL VARIATIONS IN PILOSITY

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In the observed form of the hair, the ratio of deep to low waves is virtually the same between all tribes, except for Has, which is recorded to have significantly more deep-waved individuals than all other tribes, except for Malsia e Madhe and Dukagin. Aside from Has the others are virtually the same. Owing to the prevalence of head shaving in some tribes, and the fact that my Has sample all lived near the city of Prizren, where modern haircuts are more in vogue than elsewhere, I have no confidence in this distinction. In hair texture, Zadrima shows a tendency in favor of fineness, and Luma of being medium, and both have some statistical validity. Again, I

[302]

142 Malsia e Madhe, Dukagin, and Malsia e Jakovës  
\*128 tend to be a little stronger in dark browns,  
Zadrime and Dibra in red browns, and Has and  
Puka in blond shades, than the others. Of a  
paltry 14 differences, all but 2 are below 4  
times p.e., and can be discounted.

In eye color, a few tendencies appear; Duk-  
agin and Malsia e Jakovës with 23 per cent  
dark brown, exceed about half the others  
significantly; Dibra has a concentration of light  
brown eyes, exceeding all but 2 of the others  
significantly. Mati and Zadrime have a tend-  
ency to exceed in zoned iris forms. These  
pigment differences may denote very minor  
genetic variations, but are really of little con-  
sequence.

#### REGIONAL DIFFERENCES BETWEEN TRIBES SUMMARIZED

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\*128 Having been through all of the differences  
between tribes in all characters measured and  
observed, and having tested all for statistical  
significance, we can now list the particular  
differences which indicate regional variations<sup>1</sup>  
in the Mountain Gheg phenotype (fig. 12, a).

1. The men north of the Drin are taller, more mus-  
cular and stronger than those south of it. They also  
have broader shoulders, longer arms, longer and thick-  
er necks, more sloping shoulders, greater lumbar  
curves, and more protuberant buttocks. The 2 ex-  
tremes in these characters are Dukagin and Mirdita.  
The tribes to the east, from Malsia e Jakovës to Dibra,  
show little variation in these features; the main drop  
between north and south falls to the west. These dif-  
ferences are as great as one might expect in a con-  
tinent, and unusual in so small a territory.

2. Where bodies are largest, heads are largest too.  
Aside from this heads are shortest, broadest, and high-  
est in the northwest, and the opposite in the east.  
Occipital flattening reaches its maximum in Malsia e  
Madhe and Zadrime, while lambdoid flattening and  
its companion, bathrocephaly, are highest in Dukagin.  
Tribal differences in head form are as great as those  
in body size and strength.

3. Faces are remarkably homogeneous in Malsia e  
Ghegnisë. Tribal variations are at a minimum. A few  
local peculiarities occur: broad foreheads in Malsia e  
Madhe; excessive face heights without eye obliquity  
in Has; Dukagin has a statistically noteworthy excess  
of bilateral chins, unusually few of which are reced-  
ing; Zadrime has a tendency toward a straight, down-  
turned nasal septum, and Dukagin to a thick intego-  
ment in the region of the lips.

4. Has runs bald. The northwestern tribes have

<sup>1</sup>[See Cat. 116, p. 112  
-- Analyst]

\*128  
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\* Has ~~very~~ bald. The ~~northern~~ ~~tribes~~ have more widely extended eyebrows than those in the southeast.

5. Has shows a minor tendency to medium skin color, and to black head hair; Dukagin tends to dark brown hair. The northern tribes have an excess of dark brown, and Dibra of light brown, eyes.

While the differences in body size and head shape are great, the similarity in face form, pilosity, and pigmentation is also great, and Ghegs look alike. The tribes that diverge from the total picture the most are those around the edges; the big broad-heads of Malsia e Madhe, the muscular cleft-chinned giants of Dukagin, the medium-sized broad-heads of Zadrime, and the minority of light brown-eyed Dibrans, who with their tribal brethren have somewhat narrower faces and noses.

One of the most revealing results of this intertribal comparison is the discovery that the tribes vary most among themselves not in the conventional criteria of race, but in what are usually considered to be minor or inconsequential anatomical features. If we revert for a moment to the statistics of validation, we find that values of 7 times p.e., or over, are most noticeable in the biacromial diameter, in which Dukagin exceeds all comers; span, stature, and sitting height follow in importance. In the biacromial, Dukagin exceeds all but its 2 neighboring tribes, Malsia e Madhe and Malsia e Jakovës, by 10 or more times p.e. Thirty-seven out of 69 intertribal differences in 7 body observations which reached 4 or more times p.e. were concerned with buttocks and lumbar curve; 4 out of 5 that exceeded 6 p.e. were the same. Again Dukagin is the odd tribe.

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In the measurements and indices of the head, 42 differences of 7 or more times p.e. are found, reaching an extreme of 14 p.e. in the comparison between the cephalic index of Malsia e Madhe and Luma. Malsia e Madhe exceeds all other tribes in head breadth by 7 to 11 times p.e.; that is the outstanding result of this inquiry. In the observations of the head, bathrocephaly leads all in tribal differentiation, followed by lambdoid flattening. These 2 features are concentrated in Dukagin, but neither go over 6 p.e. Zadrime is noteworthy not so much for its occipital flattening, in which it shares honors with Malsia e Madhe, as for its lack of lambdoid flattening and bathrocephaly.

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In the face, only 2 features attain high ratios of significance: the wide-extending eyebrows of Dukagin, as compared to Has, which attain 9 times p.e.; and in a lesser degree to Dibra and Mati; and the bilateral chins of Dukagin, which approach 9 p.e. in comparison with Puka, its neighbor over the Drin, and 7 with Malsia e Madhe, Mirdita, Zadrima, and Mati.

What are the important intertribal variants, then, in Malsia e Ghegnisë? Not stature, not hairiness, not the shape of the head (although its breadth is important); not the form of the face—but the breadth of the shoulders, the failure of the occipital bone to join the pari-

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etals smoothly at lambda, the flare of the eye-brows, and the habit of the mandible to form a lump on either side of the chin, instead of a bar in the middle. When we are dealing with relatively homogeneous populations, such as that of a small, isolated segment of a European country, it is in factors like those just mentioned that one obtains the most valid regional differences. It is by the appearance of such differences and their spread in isolation that races are formed. In Malsia e Ghegnisë, the most peculiar tribe by far is Dukagin, which is also the most isolated.

<sup>147</sup>  
\*128 pounds for all age grades from 20-24 to 75-89 years; and also for 65-89 years pooled. Out of 78 possible comparisons, when we ignore the pooling, 44 reach 3 or more times p.e., and when we count 65 onward as pooled, the score is 31 out of 55. Eleven of these differences exceed 9.00 times p.e. Our mountaineers reach their peak of squeeze-power in their late 30's, decline slowly for half a decade, and then weaken more rapidly after 45. The combination of physiological changes which this curve reflects may be traced in the metrical and morphological characters which follow.

AGE AND SELECTED METRICAL  
CHARACTERS

● <sup>141</sup>  
\*128 Table 12<sup>1</sup> presents the means for 7 selected metrical characters. Having neither time nor space to compute and present age grade means in all criteria, I selected some which have a special bearing on the problems of this study as well as general interest. The 12 youths probably born after 1910 are not numerous enough for full statistical treatment. Although they deviate from the trends shown by the

<sup>1</sup> [see cat. 116, p. 73c --  
Analyst]

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#128 other age groups, this cannot be interpreted with any assurance. This is unfortunate, since many of the largest series in the European literature represent this age grade alone—measured on recruits.

Stature in our series changes very little with age (fig. 4). Only 6 out of 55 differences between age grades reach 3.00 times p.e.; only one reaches 4.00 times p.e. This is barely significant. Judging by the trend of means alone, our mountaineers reach their peak of height at the same time that they are strongest, in their late 30's. The rises at both ends of the scale may represent selection, as discussed earlier. In any case there is no evidence that the mountain population was growing taller during the last third of the 19th and first fifth of the 20th centuries. From 1865 to 1929 most of the peoples of western Europe, and the Americans, were experiencing a steady growth increase. Whatever factors caused this in the west did not reach the mountains of northern Albania. This conclusion may be confirmed by a study of 17 pairs of brothers. The older was taller than the younger in 9 instances, the

7 [see cat. 116, p. 74a -- Analysis]

8: Coon

E-5 (1929-30; 46-48) 1960

EGL Albania EGL  
Highland Ghegs

TABLE 12: AGE GRADE MEANS FOR SELECTED METRICAL CHARACTERS.

| BIRTH<br>AGE YEAR | No. | STATURE     | HEAD        |       | HEAD<br>BREADTH | HEAD<br>HEIGHT | BREV.<br>CRANIATIC | CEREBRAL<br>INDEX |
|-------------------|-----|-------------|-------------|-------|-----------------|----------------|--------------------|-------------------|
|                   |     |             | LENGTH      | WIDTH |                 |                |                    |                   |
| 18-19....1911 ca. | 12  | 173.25      | 182.75      |       | 154.99          | 128.50         | 137.00             | 85.25             |
| 20-24....1908     | 99  | 169.75 ± 44 | 186.37 ± 30 |       | 156.24 ± 39     | 130.02 ± 42    | 140.00 ± 35        | 85.90 ± 32        |
| 25-29....1903     | 135 | 169.24 ± 34 | 185.63 ± 37 |       | 157.00 ± 35     | 128.57 ± 31    | 141.67 ± 28        | 84.71 ± 24        |
| 30-34....1898     | 166 | 169.79 ± 39 | 186.54 ± 36 |       | 157.86 ± 24     | 127.77 ± 24    | 142.31 ± 30        | 84.66 ± 30        |
| 35-39....1893     | 162 | 170.46 ± 35 | 186.22 ± 37 |       | 158.22 ± 29     | 128.19 ± 27    | 142.85 ± 27        | 85.02 ± 23        |
| 40-44....1888     | 129 | 170.14 ± 44 | 185.46 ± 47 |       | 159.03 ± 40     | 128.73 ± 36    | 142.85 ± 30        | 86.34 ± 20        |
| 45-49....1883     | 101 | 170.13 ± 40 | 186.90 ± 41 |       | 158.75 ± 40     | 128.74 ± 43    | 143.20 ± 37        | 84.87 ± 36        |
| 50-54....1878     | 88  | 169.07 ± 41 | 186.99 ± 53 |       | 157.99 ± 43     | 127.36 ± 27    | 143.09 ± 41        | 84.41 ± 31        |
| 55-59....1873     | 52  | 169.41 ± 55 | 185.54 ± 59 |       | 157.45 ± 61     | 126.44 ± 42    | 143.85 ± 52        | 85.04 ± 42        |
| 60-64....1868     | 56  | 167.34 ± 57 | 185.20 ± 51 |       | 157.38 ± 49     | 127.77 ± 48    | 142.70 ± 41        | 85.23 ± 33        |
| 65 + ....1863     | 41  | 170.18 ± 62 | 187.61 ± 73 |       | 157.22 ± 56     | 128.78 ± 46    | 143.10 ± 36        | 85.58 ± 44        |

| BIRTH<br>AGE YEAR | No. | TOTAL FACE   |       |
|-------------------|-----|--------------|-------|
|                   |     | HEIGHT       | WIDTH |
| 18-19....1911 ca. | 12  | 122.40       |       |
| 20-24....1908     | 98  | 121.90 ± 40  |       |
| 25-29....1903     | 135 | 121.87 ± 34  |       |
| 30-34....1898     | 169 | 123.93 ± 25  |       |
| 35-39....1893     | 131 | 124.05 ± 36  |       |
| 40-44....1888     | 111 | 123.99 ± 44  |       |
| 45-49....1883     | 85  | 124.45 ± 48  |       |
| 50-54....1878     | 61  | 124.85 ± 49  |       |
| 55-59....1873     | 36  | 125.16 ± 72  |       |
| 60-64....1868     | 37  | 125.92 ± 68  |       |
| 65 + ....1863     | 16  | 126.09 ± 135 |       |

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younger taller than the older in 8. The mean stature of the older was 171.72 centimeters, of the younger 171.47 centimeters; the mean age of the older, 41 years, of the younger, 33 years. In America and elsewhere where growth increases are in process, the younger brothers are taller than the older ones.<sup>1</sup> This study of

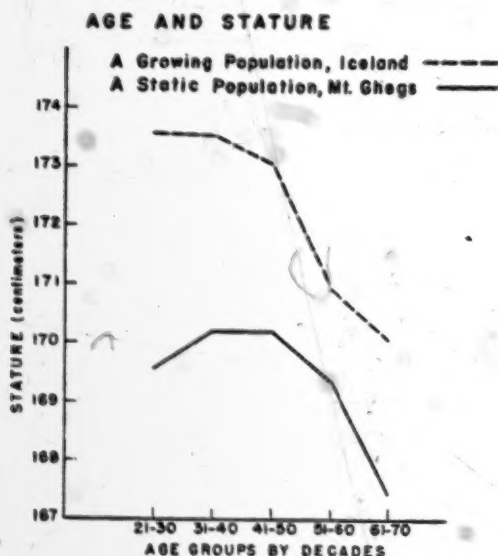


FIG. 4. Age and stature.<sup>2</sup>

stature means several things: differences between age groups are so slight that our inter-tribal stature comparisons need no age correction; we can compare our Ghegs with younger series, since the men over 50 will balance those in their 30's and 40's; since size changes comparable to those seen in certain other countries are not going on in the principal sagittal dimension of the organism, the same is probably true of the organism as a whole.

The head length shows even less variation with age than stature; in fact not a single difference between the means of the 11 age grades from 20 years old onward is statistically significant. Furthermore, no clear if minor trends are shown in the succession of means, except possibly for the dip between 55 and 64 years.

<sup>1</sup> Bowles, 1932.

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In head breadth, on the contrary, the means increase consistently and regularly to the 40-44-year age group, and then decline with the same regularity. This sequence in itself has meaning, enhanced by the fact that 6 of the differences between age group means are statistically significant. The cephalic index mirrors head breadth, with the same succession, and with 9 differences of 3.00 or more times p.e., of which 3 exceed 4.00 and one exceeds 5.00. This combination is unusual. One expects the head length to grow with age and then gradually decline as the soft parts thin out; here the burden of age change is borne by the breadth. The change of 2 index points in the cephalic index which accompanies this phenomenon cannot be responsible for the intertribal differences in that character, since the tribes which one would expect to be the most brachycephalic on a basis of age variation are the least, and vice versa.

In the head height, 6 differences are statistically significant, out of the usual 55. Two of these are over 4.00, one over 5.00. The table shows, however, no trend; higher and lower vaults alternate at random. If any factor other than chance is at play here, present evidence is not adequate to unearth it.

The face behaves differently with age (fig. 13) from the brain case. This is to be expected from what we already know of growth in man elsewhere. The bizygomatic diameter keeps on increasing to the late 40's, when it levels off; 11 out of 55 differences are significant; 6 are over 4.00, and 2 over 5.00 times p.e. The total face height grows continuously throughout life; the means never level off. Sixteen differences are significant, with 8 over 4.00, and one over 5.00 times p.e. This means that our Mountain Ghegs may owe part of their greater face length, and breadth, over other European series to their more advanced age. Without question this applies in even greater measure to the nose diameters and nasal index, which were not seriated here since they do not vary intertribally. The face dimensions do vary intertribally, and thus require further consideration.

1 [see cat. 116, p. 113  
- Analyst]

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x128 ities. At age 45, however, black-haired men would be in the majority. It is probably just as true of most other European populations that hair color depends on the age of the sample. Although eye color shows a number of differences in relation to age, none of these are comparable in magnitude to those which we have just discussed, and they do not affect the position of the sample; a description for any age over 20 will give a fair picture of this character for the adult male population as a whole.

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*AGE AND INTERTRIBAL DIFFERENCES*

So far in this chapter most of the studies of age variations have served to show the position of the series as a whole, and to render it comparable with other series. Some of the exercises have had a bearing on intertribal differences. For example, it is clear that the high stature of the people north of the Drin has nothing to do with age, in comparison with their neighbors to the south, and that the same is true of local variations in the dimensions of

142 the head. In several other characters which  
• 141 were seen to be critical points of intertribal  
\*138 difference, age cannot be as easily eliminated.  
We have seen that baldness, hair color, and  
total face height vary considerably with age,  
and must explore the effect of these changes  
on our tribal samples.

Two tribes above all others set themselves  
apart: Dukagin and Has. Between them they  
monopolize the peculiarities which suggest  
that the Highland Ghegs are not a homoge-  
neous group of people. These peculiarities,  
as tracked down in chapter 10, "The Moun-  
tain Gheg Phenotype," are the biacromial  
diameter, the total face height, the form  
of the chin, the protrusion of the buttocks, the

1/2 [sec cat. 116, pp. 586-706 -- Analy.]

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\*128

presence or absence of baldness, the lateral extension of the eyebrows, and the color of the head hair. Table 16 shows constants for these characters in Dukagin and Has. In each tribe I have segregated the 30-39-year-olds and made separate computations. By equalizing the age distribution we may hope to find out whether the peculiarities are linked to age, or not.

They are not. The 30-39-year-olds of Dukagin are just as much broader shouldered than their age mates of Has, as the total sample. The Has men have longer faces than the Dukagin men, at any age. The Dukagin men have more bilateral chins, fewer lean buttocks, less baldness, more bilateral extension of the eyebrows, and more brown hair, than the Has men, age for age.

These differences are real ones. They are just as great in one representative age group as in the total sample. Has and Dukagin are local populations which differ in these respects from the total series and from each other.

$\frac{1}{N}$  [see cat. 116, p. 71c - Analysis]

8: Coon

E-5 (1929-30; 46-48) 1950

EGl Albania EGl  
Highland Ghegs

TABLE 16: AGE CONTROLS IN CRITICAL CHARACTERS.

| No.                 | HAS        |        | DUEAGEN |        |
|---------------------|------------|--------|---------|--------|
|                     | (28)       | (114)  | (43)    | (106)  |
| Age                 | 30-39      | TOTAL  | 30-39   | TOTAL  |
| Biacromial          | 38.39 cm.  | 38.30  | 40.40   | 40.37  |
| Total face ht.      | 125.86 mm. | 126.30 | 123.44  | 124.15 |
| Chins, bilateral    | 17.86%     | 19.30% | 35.31%  | 38.68% |
| Bottocks, sm        | 32.14%     | 42.11% | 2.22%   | 5.66%  |
| Baldness, present   | 28.57%     | 46.00% | 15.55%  | 20.19% |
| Eyebrows, lat. ext. |            |        |         |        |
| abs. & sm.          | 53.57%     | 57.90% | 11.11%  | 8.49%  |
| Hair color          |            |        |         |        |
| Black               | 60.71%     | 61.46% | 17.78%  | 20.75% |
| Brown               | 32.14%     | 22.92% | 68.89%  | 66.04% |
| Other               | 7.14%      | 15.62% | 13.33%  | 13.21% |

### SOIL AND GROWTH

141 **T**HAT the content of the soil influences the growth of populations who live off its produce has been often claimed and nearly as often denied. Without reasonable doubt it is one factor in the development of body size in man, as in other animals. Boas showed this years ago in his work on the children of immigrants<sup>1</sup> and, in works on this subject, Matheny and Meredith have shown that Italian schoolboys brought up in Minnesota reach, at the age of 17, a mean stature of 171.1 centimeters, a figure far above any adult mean reported for Italy.<sup>2</sup>

In northern Albania we have found tribal stature means differing from each other a little less than 7 centimeters on comparable adult stature groups. This is not too much for genetically similar populations if they are reared under vastly different conditions of nutrition. If one reviews the earliest anthropometric surveys of Switzerland,<sup>3</sup> one finds equally great differences between isolated valleys in some of the cantons; surveys made a half century later, after modern methods of food distribution, and modern sanitation, had been introduced, showed a much more uniform stature map. In these respects Albania was certainly in no more favorable a position in 1929 than Switzerland in the 1880's.

We obtain our nutrition from the soil through the agency of vegetable matter, and from the meat as well as the milk of animals which are fed upon the same. One of the most obvious minerals to be considered is lime, needed for the growth of bone; but how much lime we need, and how much of that which is in the soil reaches us, is not known. In recent years much attention has been paid to the trace elements,<sup>4</sup> needed for various metabolic processes, but this subject too is little known. We are told that chemical fertilizers fail to put back the trace elements taken from the soil, and that manure is far better.<sup>5</sup>

<sup>1</sup> Boas, 1911; 1912, pp. 530-62.

<sup>2</sup> Matheny and Meredith, 1947, pp. 344-55.

<sup>3</sup> Schlaginhaufen, 1946, text and atlas; Coon, 1939, pp. 550-52, and Ripley, 1899, pp. 281-89, for discussion and sources.

- 133 mulithic limestone and flysch, extending southward from the isthmus between Lake Scutari and the Adriatic.

These 6 areas correspond roughly to the tribal divisions, but some of the geological boundaries cut across tribes. From the tribal data alone a close relationship between geology and physique is suggested; if we reseriate by geological areas, ignoring tribal affiliations, we can test this more accurately.

#### SOIL AND PHYSIQUE IN MALSIA E GHEGNISE

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Samples for each of the 3 major areas and the area of folding range in size from 126 to 354 individuals. To the flysch section of Zadrima, 41 men can be assigned. Only in the small limestone region of Mati is the sample, 13, statistically inadequate. In table 21 the means for these 6 tribal samples in 12 pertinent measurements are given. In general, they repeat the picture shown by tribal distribution, and in certain respects accentuate it. When we compare the first 5, making 15 comparisons for 12 characters, we find 65 out of a possible 180 differences significant, or 36 per cent; 28, or 16 per cent, are more than 6.00 times p.e.; 14, or 8 per cent, over 8.00 times p.e.; and 6, or 3 per cent, over 10.00 times p.e. The means for the areas do not in themselves exceed tribal means, because the areas are spatially more inclusive than single tribes situated within them. They fall between the tribes and the total series in variability, as indicated on table 21 by values of  $\sigma$ . Each of the geological areas undoubtedly contains a number of small local enclaves, as Switzerland did during the last century. To find lower values for  $\sigma$  we would have to study these valleys, and the villages in them, one by one. Our sample is not large enough for such fragmentation.

141 The validity of the division of the total series into geological areas is most clearly shown by the figures on the third part of table 21, in which the stature means of the component segments of tribes falling in each geological area have been listed together. In every case but one, *the means of the segments of individual tribes diverge from each other in the directions of their areal means, and they resemble these areal means more closely than they do each other.*

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141 The one exception is Malsia e Jakovës, divided between limestone and folded. These 2 areas are nearly the same in stature, and the difference between tribal segments is inconsequential. The 4 other men from this tribe who lived in serpentine territory were much shorter, 168 centimeters. Not only were the men from serpentine territory short as a whole, but very few of the exceptionally tall men, the "giants" of 180 to 190 centimeters from whom the Ghegs get their name, are found among them. These striking figures are seen almost exclusively north of the Drin. A few turn up near the limestone area of northern Mati, where a small sample suggests that a tall enclave may be found.

\*128  
142 From a statistical standpoint, the most telling division within a tribe is that which splits Dibra into serpentine and eastern subsamples. The difference between the means, 3.07, is 3.49 times p.e. In order to test this for the possibility of a genetic difference I selected the one character in which Dibra is most distinctive, light brown eye color, and sorted the subsamples for it. Out of 15 men whose eyes were of this hue, 7, or 19 per cent, were from serpentine territory, and 8, or 11 per cent, from the eastern. Neither the rest of serpentine nor the rest of eastern approach these frequencies. In this character, which is certainly genetic, Dibra is still a unit, still separate from its neighbors.

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\*128 Although fragmentation of the series is unprofitable because of the smallness of the subsamples, one example may show what kind of thing to expect when the local enclaves can be investigated. In Dukagin, as stated earlier, mutual exogamy, with cross-cousin marriage, is the rule between the people of Shala and Shoshi. However, many of the Shala men marry Shala women, who come from the families of *anas*, unrelated in the male line to the *fis* of Dukagin. In Shoshi also local endogamy takes place, but more rarely. Shala is apparently in the limestone, Shoshi in the folded, area. Shala men whose mothers came from Shoshi are 4.04 centimeters taller (see table 21, last part) than Shala men whose mothers were local, and this difference is 5.53 times its p.e. At the same time Shala men with Shoshi mothers are 3.37 centimeters taller than their cousins, the Shoshi men with Shala mothers, and this comes to 2.88 times p.e.

1 [See Cat. 116 p. 88c  
-- Analyses]

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The people living in the northern limestone area are not only taller than the others, but also wider spanned, broader shouldered, and stronger. They are, in general, bigger and more robust. The inhabitants of the folded region approach them in build, while the serpentine dwellers are small all over, but partic-

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\*128 ularly in their arms and legs, and the flysch-  
folk are the smallest of the lot. Whether or  
not it is of any consequence, the last-named  
live on the border of malarial country.

The inhabitants of the eastern area fall close  
to the mean of the total series in the measure-  
ments and dimensions of the body, but diverge

TABLE 21: ANTHROPOMETRIC MEANS AND GEOLOGICAL AREAS.

|                 | TOTAL      | FLYCH       | LIMESTONE  | FOLDED      | SERPENTINE | EASTERN    | MAT. L. |
|-----------------|------------|-------------|------------|-------------|------------|------------|---------|
| Squeeze ....    | 112.09     | 102.95±1.94 | 116.55±.79 | 111.95±1.20 | 105.55±.73 | 110.70±.74 | 102.33  |
| (No.)           |            | (41)        | (237)      | (126)       | (354)      | (294)      | (13)    |
| Stature ....    | 169.71±.14 | 165.87±.80  | 173.04±.27 | 171.87±.34  | 167.22±.22 | 169.92±.26 | 167.35  |
| Rel. span ...   | 103.94±.05 | 104.74±.30  | 104.58±.12 | 104.00±.14  | 103.22±.10 | 103.56±.11 | 101.88  |
| Rel. sh. br..   | 22.76±.02  | 22.53±.12   | 23.08±.05  | 22.76±.08   | 22.66±.05  | 22.68±.05  | 23.42   |
| Rel. sit. ht... | 52.76±.03  | 53.67±.19   | 52.55±.06  | 52.59±.09   | 52.91±.06  | 52.76±.07  | 53.12   |
| Head lgth...    | 186.18±.15 | 181.47±.57  | 188.12±.29 | 188.76±.44  | 184.32±.24 | 186.21±.26 | 187.88  |
| Head br. ....   | 157.78±.12 | 157.44±.56  | 159.92±.26 | 157.38±.33  | 157.88±.21 | 156.57±.24 | 155.85  |
| Head ht. ....   | 128.34±.12 | 128.63±.67  | 128.67±.26 | 129.08±.33  | 128.22±.17 | 127.95±.24 | 123.69  |
| Ceph. index     | 84.84±.09  | 86.71±.40   | 85.17±.18  | 83.34±.25   | 85.59±.15  | 84.18±.17  | 83.07   |
| (No.)           | (921)      | (39)        | (204)      | (115)       | (298)      | (252)      | (7)     |
| Tot. face ht.   | 123.90±.14 | 122.00±.72  | 124.80±.31 | 121.85±.44  | 122.60±.24 | 126.45±.33 | 126.40  |
| (No.)           | (921)      | (39)        | (204)      | (115)       | (298)      | (252)      | (7)     |
| Up. face ht.    | 73.55±.11  | 71.25±.57   | 73.75±.23  | 72.20±.30   | 73.10±.19  | 74.95±.21  | 72.00   |
| Bizygomatic     | 142.35±.12 | 140.90±.65  | 144.05±.22 | 142.50±.32  | 141.70±.19 | 141.80±.21 | 139.30  |

VALUES OF  $\sigma$  FOR AREAS, TOTAL SERIES, AND TRIBES

|                       | FIVE<br>AREAS | TOTAL | TRIBES |
|-----------------------|---------------|-------|--------|
| Stature .....         | 6.44          | 6.72  | 6.38   |
| Rel. span .....       | 2.67          | 2.56  | 2.48   |
| Rel. shoulder br..... | 1.26          | 1.20  | 1.16   |
| Rel. sitting ht.....  | 1.60          | 1.50  | 1.46   |
| Head lgth.....        | 6.59          | 7.08  | 6.65   |
| Head br. ....         | 5.72          | 6.00  | 5.67   |
| Head ht. ....         | 6.04          | 6.03  | 5.87   |
| Cephalic index.....   | 4.12          | 4.29  | 4.03   |
| Total face ht.....    | 6.83          | 6.50  | 6.29   |
| Upper face ht.....    | 4.95          | 5.00  | 4.89   |
| Bizygomatic .....     | 5.49          | 5.65  | 5.80   |

STATURE MEANS FOR GEOLOGICALLY SEPARATED SEGMENTS OF TRIBES

| LIMESTONE      | FOLDED              | SERPENTINE          | EASTERN             | FLYCH         |
|----------------|---------------------|---------------------|---------------------|---------------|
| MeM 105 172.77 | Duk 20 173.20       | Puk 40 168.25 ± .72 | Has 113 170.82      | Zad 34 165.72 |
| Duk 78 174.36  | MeJ 48 172.87       | Mir 101 166.68      | Lum 109 169.47      |               |
| MeJ 52 172.48  | Puk 57 170.23 ± .47 | Zad 70 167.72       | Dib 74 169.53 ± .52 |               |
|                | Puk* 13 170.85      | Mat 92 166.68       |                     |               |
| Mat 12 168.25  |                     | Dib 35 166.46 ± .71 |                     |               |

\* Thirteen men from the village of Puka, eating bread from a bakery which uses flour from all parts of the tribe.

STATURE MEANS INSIDE DUKAGIN

| FATHER | MOTHER | NO. | MEAN          |
|--------|--------|-----|---------------|
| Shala  | Shala  | 48  | 172.83        |
| Shala  | Shoshi | 30  | 176.87 ± .46  |
| Shoshi | Shala  | 16  | 173.50 ± 1.08 |
| Shoshi | Shoshi | 4   | 171.58        |

141 from all the others in the measurements of the  
\*128 head and face. These people are, compared to the others, notably narrow headed, narrow faced, and long faced.

Head form (figs. 14, 15) follows the same distribution shown by the tribes. The one measurement that does not vary at all significantly is head height. Head length, however, shows the greatest variation of any character recorded. Computing a cephalic module from the means,<sup>7</sup> we find the areas clustered into 2 groups, limestone and folded, with 158.90 and 158.41 centimeters respectively, and flysch, serpentine, and eastern with 155.65, 156.71, and 156.91; big heads and medium to small heads. The size of the head, within a major racial group of man, goes with the volume of the body.<sup>6</sup> In a series like ours where the dimensions of the head are subject to great variation of questionable origin, head size is a more useful criterion for the purpose of this chapter than its components. It clearly separates the Mountain Ghegs into 2 categories, one large, the other medium to small.

This, rather than the individual measurements and indices, is the most suggestive difference yet found between regional segments of the total series. The people in the limestone karst country are big people, and their kinsmen in the country where the soil is laid on a medley of folded outcrops are nearly as big. The people living in the land of serpentine and gabbro are much smaller, as is the small sample of flysch-dwellers. To the east, in the valley of the Black Drin and up into the Prizren region, the people are of intermediate stature, but with relatively long, narrow heads and faces.

142 In addition to the data presented, sortings  
\*128 were made for a number of observations which might have to do with general robusticity. This effort yielded nothing that the tribal sortings have not already revealed. No difference was found between areas in the proportion of concave scapulae, which seem to have more to do with age than with nutrition.  
[164] Finally, the teeth of all areas were seen to be equally carious, equal in frequency of evulsion.

#### PRIVILEGE AND NUTRITION

565 In many countries food and other benefits  
141 are unequally distributed, and in some of them  
\*128

<sup>7</sup> Cephalic module =  $\frac{L+B+Ht.}{3}$

1 [see cat. 116, pp. 114-115  
-- Analyst]

2 [see cat. 116 p. 89b  
-- Analyst]

141 members of the privileged classes are taller  
565 than their less-favored fellow citizens. In the  
\*128 mountains of the Ghegs no stereotyped class  
system exists. Nevertheless in each tribe a few  
men hold higher political rank than the others,  
and a little difference in wealth may be dis-  
covered. Wealth and power usually go to-  
gether. Using the data discussed in chapter 5,  
on "Politics and Feuding," page 30, I have  
segregated 66 office-holders, 23 from limestone  
territory, and 43 from serpentine. The latter  
group included the entourage of Prince Jon  
Markajon (fig. 10, a), the tribal chief of Mirdita.  
These men had eaten the best the land had to  
offer. As table 22 shows, this made no real

TABLE 22: GEOLOGY AND STATURE,  
OFFICE-HOLDERS.

|                   | LIMESTONE |        |     | SERPENTINE |        |     |
|-------------------|-----------|--------|-----|------------|--------|-----|
|                   | No.       | MEAN   |     | No.        | MEAN   |     |
| Total .....       | 237       | 173.04 | .34 | 354        | 167.22 | .22 |
| Office-holders .. | 23        | 174.09 | .78 | 43         | 167.63 | .57 |

[264] difference in stature. In the mountains a chief  
eats at a big table, surrounded by his retainers,  
but any visitor is free to join at the hospitable  
[262] board. The office-holders probably get more  
meat than the poorer people, but everyone  
consumes dairy products, bread, and legumes.  
Everyone also derives all his food from the  
same geographical source.

### CONCLUSION

\*128 Although the geological map on which this  
study is based was of a most general character,  
it seems to have been accurate enough for the  
present purpose. The minerals of this region  
which it shows can be correlated with the  
body size and robusticity of the inhabitants as  
populations, and with nothing else which this  
particular study reveals, other than a partly  
coincidental east-west trend in head and face  
form, which will be discussed later. What  
minerals, if any, are involved in these size  
variations, how they are assimilated, if they  
are, and how they affect growth, if they do,  
are problems beyond the scope of this paper  
and its author's competence. If this excursion  
into the nutritional field has any value it lies  
in the fact that other explanations of regional  
size differences have been eliminated.

1 [See cat 116, pp. 306-  
308 -- Analyst]

2 [See cat. 116, p. 110 --  
Analyst]

## CRADLING

## 85+ THE EVIDENCE ACCUMULATES

141 I WROTE, in 1939, "There has been much  
304 discussion upon the subject of occipital flattening, both in Albania and in Asia Minor; there are two definite schools, one which believes that it is natural and racially determined, the other that it is a form of artificial deformation caused by cradling. My own position lies between these two extremes; occipital flattening is without doubt a phenomenon associated with the entire mechanical orientation of the cranium in the Dinaric race, and especially with the position of the foramen magnum to the rear of that usual in most races. As such, it is undeniably inherited.

"At the same time, the use of the Albanian cradle, in which the shoulders are bound but the head is not, may in some instances have caused an intensification of this flattening, since the heads of some living Albanians are unquestionably deformed. However, since cradling practices are regionally uniform in Albania, the geographical distribution of this character is wholly racial in pattern."<sup>1</sup>

I also promised in a footnote: "A detailed study of this question will be published in the author's 'The Physical Anthropology of Northern Albania,' the provisional title of the present monograph. Since then evidence has been accumulating that 'some instances' should be changed to 'most instances.' Father Ewing found that Lebanese children born in Brooklyn show much less flattening than their parents, and 2 Harvard graduate students, Mr. David de Harport and Mr. William Laughlin, working under my direction, found the same thing among Tosks in Greater Boston."<sup>2</sup>

141 In the course of the present monograph 6 pieces of evidence have appeared in other contexts. In chapter 10, on "The Mountain Gheg Phenotype," on page 62<sup>2</sup> and table 4,<sup>3</sup> we saw that the sigma ratios for head length, head breadth, and the cephalic index are abnormally high, both as a total and within tribes, and this applies especially to the cephalic<sup>4</sup> [see cat. 116, p. 906 -- Analyst]

<sup>1</sup> Coon, 1939, p. 600.

<sup>2</sup> [see cat. 116, pp. 62a-62c -- Analyst]

<sup>3</sup> [see cat. 116, pp. 54f-54m -- Analyst]

● 141 alic index. In the same chapter, on page 63,<sup>1</sup> it appeared that the tribal means differ more from each other and from the total means in these 3 characters, and in the breadth-height index, than in any other criteria except for the gross body diameters, of which we have already tentatively disposed in chapter 13, on "Soil."<sup>2</sup>

In the same chapter, on page 66,<sup>3</sup> we found that the tribes differ from each other most notably and significantly in 7 observations of the cranial vault, especially in bathrocephaly, occipital flattening, and lambdoid flattening. We further saw that the frequencies of degrees of flattening assumed the form of a normal curve quite independent of the "absent" category. If flattening were natural one would expect *sm* to exceed +, + to exceed ++, etc., in frequency.

In chapter 11, on "Age," page 77,<sup>4</sup> it was revealed that the head length fails to follow the normal or expected age changes, but that the head breadth bellows out and in with age, doing double duty. In chapter 13, on "Soil," page 89,<sup>5</sup> head form was shown, in a general way, to follow its own geographical course without regard to the soil-area divisions which so firmly mark frontiers of physique in the sizes of the body as a whole and of the head.

Any one of these red lights flashing through the chapters would have been enough to warn us that something is peculiar about head form in this series. In fact, there are no green lights; in no segment of this study has the cranial vault behaved as one expects in a normal population. "Normal" in this sense refers to the large series studied in the past, and most of these have been from western Europe and modern America. It will probably be shown as time goes on that many of the peoples of the world have heads comparable to those of the Albanians. We know already that this is true of Armenians, Lebanese, and Montenegrins, and it can probably be demonstrated for other European populations.

<sup>1</sup> Ewing, 1947, pp. 235-36; Ehrich and Coon, 1948, pp. 181-86.

<sup>1</sup> [see cat. 116, pp. 63a - 63b -- Analyst]

<sup>2</sup> [see cat. 116, pp. 86a - 89b -- Analyst]

<sup>3</sup> [see cat. 116, pp. 66a - 66b -- Analyst]

<sup>4</sup> [see cat. 116, pp. 77a - 77c -- Analyst]

<sup>5</sup> [see cat. 116, pp. 89a - 89b -- Analyst]

304 ital flattening is probably also genetic at times,  
 \*128 or produced by other environmental influences  
 of which we are not aware. When it occurs  
 with the frequency and to the degree shown  
 by the cradled Tosks, we may be reasonably  
 sure that the cradling is responsible for most,  
 but not necessarily all, of it. The Boston Tosk  
 population urgently needs a thorough study,  
 while the old people who led the colony across  
 the ocean are still with us, and before the  
 young people are dispersed.

### THE ANTHROPOMETRY OF FLATTENING

141 Returning to our Gheg series, we may sur-  
 304 vey the effect of both kinds of flattening on  
 \*128 the major dimensions of the head, and on the  
 cephalic index, as shown in table 27 and figure  
 7. Constants were also seriated for stature,  
 minimum frontal, bizygomatic, bigonial, total  
 face height, upper face height, nose height,  
 nose breadth, and the nasal index. Since all of  
 these drew complete blanks except bizygomatic,  
 we may conclude with confidence that within  
 present limits cranial vault form has nothing  
 whatever to do with any of them except the  
 width of the face, either genetically or me-  
 chanically. Furthermore, the failure of such  
 sensitive criteria as face height and nose height  
 to change with type of flattening confirms the  
 independence of these latter from the influ-  
 ences of age, once the sutures have entirely  
 closed.

The dimensions of the vault sort themselves  
 out into 2 categories; those that are nearly  
 identical with each other and those that ap-  
 proach or attain statistical significance. In  
 head length, *lambdoid* and *both* are the same;  
 in the breadth, *lambdoid* and *neither*. In the  
 height, *occipital* and *both* are the same; in the  
 cephalic index all are different.

It is interesting to observe that *lambdoid*  
 flattening, despite its position, still causes a  
 little shortening of the head, and that the men  
 with both types of flattening follow those  
 with *lambdoid* only in this dimension. In  
 breadth, however, the *lambdoidally* flattened  
 heads follow the unflattened, while the men  
 with both take their breadth from their occip-  
 ital flattening. As one would expect, *lambdoid*  
 flattening carries with it the lowest values for

1 [see cat. 116, p. 97c  
 -- Analyst]

2 [see cat. 116, p. 92b  
 -- Analyst]

141 head height and occipital the highest. The men  
304 with *both* follow the occipital line, while those  
\*128 with *neither* are between. Whatever else a  
man may have, lambdoid flattening prevents  
his head from being shortened beyond a cer-  
tain degree; if he has occipital flattening he is  
sure to have a broad and high vault. As one

8:Coon E-5 (1929-30;46-48)1950 EG1 Albania EG1  
Highland Ghegs

●141 would expect, the values for the cephalic  
304 index follow a progression from *neither* to  
\*128 *occipital*, and a range of 5 index points. Clearly, flattening is a vital factor in the makeup of  
Dinaries.

In the means for the bizygomatic diameter, significant differences are seen between *lambdoid* and *both*, *occipital* and *both*, and *neither* and *both*. Lambdoid flattening does not broaden the face but apparently *occipital* does. The reason why *both* exceeds *occipital* only is that *both* has higher values for degree of occipital flattening than *occipital only*.

● 141 This increase in face breadth, though sig-  
30 nificant, is not great. Another element in this  
\*128 complex is the nasal profile, which seems to  
grow more convex as the occiput becomes  
more flattened. The significance of this, if any,  
may be seen more in the steady progression of  
percentages of convex in the column repre-

8:Coon E-5 (1929-30;46-48)19:EG1 Albania EG1  
Highland Ghegs

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\*128  
senting degree of occipital flattening than in any statistical test. It may be added that many other attributes were tested for association with head form, and none of them were found to be related. Lambdoid flattening does nothing to the face. Occipital flattening may bring about a slight facial broadening in connection with the greater broadening of the parietals, for as it separates the areas of attachment of the temporal muscles, it may, in so doing, thus spread the hoops under which these muscles pass to the mandibular condyles, which remain constant. The increase in nasal

TABLE 27: ANTHROPOMETRY AND FLATTENING

## VALVE DIMENSIONS

|                     | ONLY<br>OCCIPITAL | ONLY<br>LAMBICHD | BOTH         | NOTHING      |
|---------------------|-------------------|------------------|--------------|--------------|
| No. ....            | 262               | 402              | 68           | 333          |
| Head lgh. ....      | 181.70 ± .27      | 186.73 ± .23     | 186.71 ± .95 | 188.36 ± .25 |
| Head br. ....       | 161.50 ± .23      | 156.93 ± .19     | 160.10 ± .44 | 156.10 ± .21 |
| Head ht. ....       | 129.44 ± .33      | 126.88 ± .26     | 129.76 ± .73 | 128.23 ± .23 |
| Cephalic index .... | 87.91 ± .16       | 84.08 ± .12      | 86.82 ± .67  | 82.96 ± .23  |
| Brygomatic ....     | 142.60 ± .23      | 141.79 ± .19     | 144.78 ± .46 | 142.06 ± .21 |

## DEGREE OF FLATTENING AND CEPHALIC INDEX

|            | OCCIPITAL* | LAMBICHD* |
|------------|------------|-----------|
| Abs. ....  | 737        | 597       |
| sm ....    | 37         | 110       |
| + ....     | 213        | 327       |
| ++ ....    | 70         | 33        |
| +++ ....   | 10         | —         |
| Total .... | 1067       | 1067      |

\* Including both.

## NASAL PROFILE AND FLATTENING

| CONCAVE    |         | STRAIGHT |       | CONVEX |       | CONC-CONV. |      | TOTAL |
|------------|---------|----------|-------|--------|-------|------------|------|-------|
| #          | %       | #        | %     | #      | %     | #          | %    |       |
| Abs. ....  | 54 7.30 | 300      | 40.70 | 374    | 50.75 | 9          | 1.25 | 737   |
| sm ....    | 3 8.11  | 15       | 40.54 | 18     | 48.65 | 1          | 2.70 | 37    |
| + ....     | 7 3.37  | 80       | 37.47 | 125    | 58.69 | 1          | .47  | 213   |
| ++ ....    | 5 7.14  | 18       | 25.71 | 47     | 67.14 | 0          | 0    | 70    |
| +++ ....   | 0 0     | 3        | 30.00 | 7      | 70.00 | 0          | 0    | 10    |
| Total .... | 69      | 416      |       | 571    |       | 11         |      | 1067  |

## CONVEXITY

| Occip. Flattening..... | Absence | Presence |
|------------------------|---------|----------|
| Abs. ....              | 363     | 374      |
| Pres. ....             | 133     | 197      |

Q = 45

141  
304  
\*128 convexity would reflect a thrusting forward,  
in extreme cases, of the bony structures in the  
sagittal line of the cranium through the region  
of the nasal passages.

Before this section is concluded, it might be  
of interest to mention that the 22 adult male  
Tasks measured in Boston have a mean cephalic  
index of 89.91, with a mode of 8 individuals  
at 91. The distribution is not a curve at all.

TASKS

141  
304  
\*128

The 5 adult males born in America have cephalic indices of 76, 78, 78, 87, and 88, with a mean of 81; 3 out of 5 are as long headed as the rest of the American population, while the other 2 approximate the mean and mode of their cradled parents.

TRIBAL DISTRIBUTION OF HEAD  
FORM

Table 28<sup>1</sup> shows clearly that it is not merely

\*(see cat. No. p. 98e-- Analyst)

141 the relative frequency of occipital and lamb-  
304 doid flattening that causes regional differences  
\*128 in head form (figs. 7, 14, 15).<sup>1</sup> When the un-  
flattened individuals in each tribal series are  
sorted out and reseriated, we find that in each  
case a lower mean is obtained than before,  
varying from .74 points lower in the case of  
Dukagin, to 2.98 points lower in Has. The  
complete regularity of this column provides

2 [occ. cat. 116, 117, 92 b, 114, 115--Analyst]

141  
304  
\*128

for its validation. If flattening alone were responsible for the differences in cephalic index, then when all flattened persons were removed the tribal means should be identical. They are not, and we have uncovered a real, probably genetic, difference in head form ranging from a mean of 84 in the west to 81 in the east. This accords perfectly with the regional distribution of facial measurements which we have already seen.

TABLE 28: TRIBAL CEPHALIC AND INDEX MEANS.

| TOTAL AND UNFLATTENED |     |             |     |             |
|-----------------------|-----|-------------|-----|-------------|
|                       | No. | TOTAL       | No. | UNFLATTENED |
| MeM .....             | 105 | 86.79 ± .25 | 22  | 84.28 ± .46 |
| Duk .....             | 106 | 84.54 ± .24 | 30  | 83.80 ± .33 |
| MeJ .....             | 104 | 83.04 ± .28 | 41  | 81.22 ± .40 |
| Has .....             | 114 | 85.59 ± .28 | 26  | 82.61 ± .59 |
| Lum .....             | 109 | 82.62 ± .27 | 32  | 81.38 ± .40 |
| Puk .....             | 102 | 83.76 ± .26 | 55  | 82.69 ± .27 |
| Mir .....             | 101 | 84.39 ± .27 | 33  | 83.09 ± .42 |
| Zad .....             | 105 | 86.67 ± .24 | 35  | 84.86 ± .38 |
| Mat .....             | 104 | 86.49 ± .27 | 22  | 84.14 ± .54 |
| Dib .....             | 108 | 84.96 ± .26 | 32  | 83.34 ± .49 |

8: Coon

EG1 Albania EG1  
Highland Ghegs

141

[For data on cranial deformations, see category 116, pp. 90a;  
91a-98e.]

# 142

142 DESCRIPTIVE SOMATOLOGY--color of skin, hair, and eyes; form, length, and distribution of hair; musculature; secondary sexual characteristics; somatotype data; etc.

2: Durham B-5 (ca. 1910) 1928 EG1 Albania EG1



PLATE 1.—MEN OF SHALA

(Photo by Marubbi)

[Frontispiece)

*Some Tribal Origins, Laws, and Customs of the Balkans*

173 dark people inhabiting the land, with whom they intermarried. Eight houses near Abate, in lower Shala, trace descent from these old inhabitants. The rest of them migrated to Dechani. The Albanians I saw at Dechani in 1903 were certainly all of the small dark type.

614 Shala consists of four bairaks: Thethi, Petsaj, Lothaj, and Lekaj. The three latter are said to have separated into three groups 376 years ago (told me in 1908). Lothaj and Lekaj recently decided they were far enough removed to be intermarriageable. But Shoshi and Mirdita still would not marry with them.

[613  
582]

The bairak of Thethi consists of 180 houses. In these mountains a "house" is far more numerous than in the Malsia e Madhe. Large communal "houses" still exist, of as many as thirty or forty persons. Thethi is self-governing, and, in fact, is practically a separate tribe. It clings strongly to exogamy, and does not intermarry at all within the tribe, nor does Petsaj. Thethi marries almost entirely with Boga, and this, continued through many generations, has made the Thethi differ somewhat in physical type from the rest of Shala.

619 2. *Shoshi*.—Origin as above. It lies south of Shala, on the right bank of Shala river. The rock of Lek Dukagin is in Shoshi territory. Shala and Shoshi reckon themselves as "Dukagini," former subjects, that is, of the now extinct chieftain family of Dukagin. Shoshi and Shala are entirely Catholic.

3. *Toplana*.—This was a very wild tribe and had the highest record for blood-vengeance of all the Christian tribes. It is situated in very rugged mountains difficult of access. Toplana told me it was "very old." Baron Nopcsa traced pedigrees to 1450, and considers that about that time it came in to its present site from Vasojevitch. Vasojevitch is known to have shifted its ground from somewhere near Focha in the Herzegovina to Medun, near Podgoritza, and thence to its present site. In one of these shifts it probably drove Toplana out.

The whole district occupied by the above seven tribes is often called Malsia e Vogel, the little mountains. Also included in the diocese of Pulati is:—

4. *Nikaj*.—Here I was told that the tribe is mainly an offshoot from the Moslem tribe of Krasnichi, which, as we have seen, is brother to Hoti. Nikol, the ancestor, left Krasnichi while that tribe was still Christian, and Nikaj is all Catholic. One hundred houses of Nikaj, the Tsuraj, trace descent from a daughter of Nikol, who bore an illegitimate child by a cut-eared gypsy ("tsurrue," to cut or mark the ears). This is the only case of female descent I heard of. The cut ear suggests that the gypsy had been mutilated as a punishment and had fled to the mountains. The Nikaj people are dark and are a wild lot. Gypsy blood is possible.

[611]

2: Durham B-5 (ca. 1910) 1928 EGI Albania EGI



PLATE VIII.—AN ALBANIAN VIRGIN

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589  
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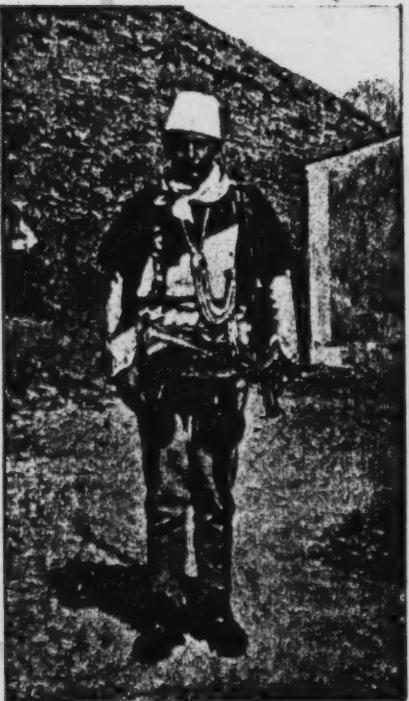


PLATE VII.—BOGA BOY IN FULL DRESS  
(See p. 23)

291  
442

[Facing p. 193]

## Y Some Tribal Origins, Laws, and Customs of the Balkans

766 Glass "turquoises" made the head-band yet more protective. Small  
777 cocks are still made as heads of pins to fasten the head-dress to the  
Y hair in the Herzegovina.

777  
172 In the prehistoric graves at Glasinatz in Bosnia, tiny bronze amulets,  
shaped like doves, have been found. In North Albania three wooden

A  
764  
777  
301  
M  
[301]

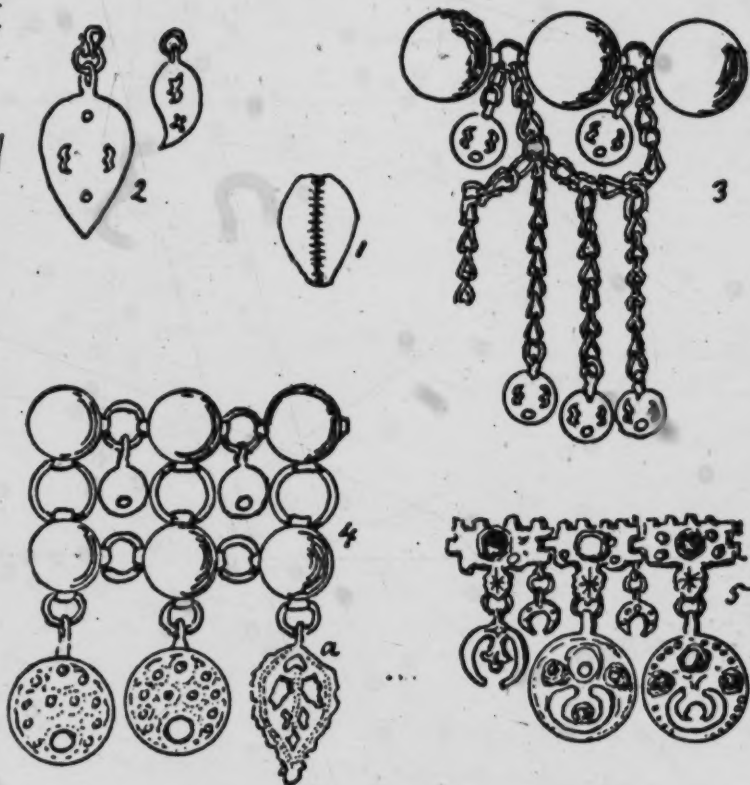


FIG. 19—SPECIMENS SHOWING EVOLUTION OF ORNAMENT FROM COWRY

1. Natural cowry. 2. Pendant common in North Albania. 3. Necklace from Kolashin, Montenegro (old specimen). 4. Breast ornament from Nikaj, North Albania (modern). 5. Old necklace, Scutari.

A  
[531] doves perch on many a wooden grave-cross. Especially good examples  
are at Boga. A dove forms part of the decorative design worked on  
the scarlet cloak worn by the Catholic married women of Scutari, as  
A does also the serpent. My repeated inquiries failed to find any explana-  
142 tion of this dove. "It must be some old tale which we have forgotten,"  
171 was the reply of the embroiderers. The Glasinatz amulets from ancient

*Magic, Medicine, Soothsaying*

pre-Christian and pre-Slav days show the tale to have been, indeed, <sup>A</sup>so old as to justify its being forgotten. The dove appears, too, on a pair <sup>142</sup>of silver earrings I have from Mirdita. <sup>171</sup>

Many of the Hallstadt period bronze ornaments, notably a number of tiny pendants in the form of buckets, cups, jugs, crosses, and animals, found at Prozor in Croatia (Kunst Histor. Museum, Vienna, Room XIII, 31), are extraordinarily like the strings of little household and other articles which dangle from a silver chain hooked to either side of the head-dress of the women of Nish in Serbia. Shoes, scissors, ploughs, plates, hammers, hatchets, hoes, pistols, the war-club ("buzdovan"), and sword are mixed with frogs, hares, and cocks. The cross, the ladder, and the paten usually hang in the middle, thus bringing the ornament into Christian times as the pistol does into "civilized ones." This curious chain hangs under the chin. It was still being made by the local silversmiths in 1902 and much worn. I had seen nothing like it anywhere else till I found, in the Kunst Hist. Museum in Vienna, a sumptuous gold chain a yard long, found in 1797 at Szilagy Somlyo in Hungary, along with fifteen big gold medals of Roman emperors set in gold frames—three of Maximianus, seven of Valens, one of Valentinianus, one of Constantine the Great, two of Constantius, and one of Gratianus. Thus from A.D. 284 to A.D. 383. The official catalogue describes it: "The principal object is the chain (No. 290), with models of implements of all sorts." I found ox-yoke, ladder, adze, several hammers, trident, straight sword, shield, war-club, pincers, tongs, scissors, ploughshare, axe, curved sword, reaping-hook, spear-heads, and an outstretched hand. In the centre hangs a ball of topaz, on which stands a golden vase on which two lions set their paws. Above the ball and attached to the chain is a curious dugout canoe in which a man with an oar sits. The whole is beautifully worked in solid gold and is very magnificent—the lordly ancestor of the peasant ornament still made in inferior silver at Nish. <sup>5</sup> [301]

The twisted chain-link is the same; so are the bulk of the implements—and nothing resembling this chain of implements have I found elsewhere. Did the Hallstadt folk of Prozor wear those little bronze pots and vases on a chain? For whom and when was the golden chain of Somlyo wrought? And why do the smiths of Nish still imitate it? It is easier to ask questions than to answer them.

In Bosnia very elaborate head-dresses were, till recently, worn by <sup>Y</sup>women with plumes of coloured grasses, peacock's feathers, beads, <sup>777</sup>coins, and dingle-dangles, all designed to attract the Evil Eye away from the wearer. Perhaps the subtlest way is to wear a small looking-glass, for the Evil Eye then throws its evil glance upon itself. Best of all was to wear the glass at the back of the head on the headkerchief, <sup>754</sup>

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## Albanian Women

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562



THE Albanian women are an intriguing combination of charm and grace with the addition of more serious virile qualities; the results of this association make them delightful and quite unique. They have rapidly risen from any form of servitude which they may have endured in the long past and now walk hand in hand with the men of their country.

- 142 In appearance she is tall and slender and of the brunette type, with large, black eyes smouldering between long, curling, black lashes—the warm, emotional type. Her carriage is pleasing, moving as she does with a suppleness that denotes the women who are accustomed to living in the open air and not spoiled by those instruments of torture which, for the sake of coquetry, support the elegant Parisian woman. It is perhaps easier to imagine Diana the Huntress and her retinue under the natural aspects of the Albanian woman.

155 The marshes, the great forests or the mighty mountains do not frighten her at all.

352 fashion, a well-scoured copper pan to mix the meal in,  
 (415) a wooden bowl or two, a few horn spoons, a copper  
 373 *ibrik*, or coffee pot, and a brass lamp. One of the two  
 412 rooms is used as a storehouse for the maize or grapes,  
 251 which are spread out and sprinkled with salt in order to  
 353 preserve them. The other serves as general living and  
 372 sleeping apartment, where the fire is made on the  
 floor, the smoke escaping through a hole in the roof.  
 241 Each house has its garden well stocked with fruit  
 249 and vegetables, and its tobacco plot, surrounded by a  
 high loopholed wall. Each village has, too, its green,  
 361 in one corner of which is the paved threshing-floor,  
 243 where the grain is trodden out by horses.

●142 The physical appearance of the women of Albania  
 varies according to the district they inhabit, the tribe  
 to which they belong, and the conditions under which  
 they live. The Skipetars of the Drin and the Gheg  
 and Miridite women of North Albania generally are  
 tall, handsome, and well-made, having good com-  
 plexions and not infrequently fair hair, which, as the  
 following verse from one of their folk-songs shows, is  
 much admired:—

[539]

O maiden so tender,  
 No pipe of Vizier  
 Was ever so slender  
 As thou art, my dear!  
 The soft silken tresses  
 Of thy yellow hair,  
 The glad breeze caresses,  
 Like flax threads are fair.

183 They are also dignified in demeanour, capable of  
 undergoing fatigue and hardship, and exceedingly  
*Courageous.*

courageous. The Tosks are blue-eyed, and also have frequently blonde or chestnut hair. Their features are refined, and they are extremely elegant in figure and deportment. The Khams resemble the Greeks somewhat in feature. They have black eyes and hair, and darker skins than the Ghegs. The Liaps are the least handsome of all the Albanian women, and the laborious out-of-door life they lead, surrounded by privations of all kinds, soon destroys any degree of beauty they may have possessed in youth. They are, however, expert swimmers and divers, this pastime affording almost their only distraction.

The national costumes of the Albanians are extremely varied and picturesque, and are still rigidly adhered to by all classes. The dress of a Skipetar lady is extremely rich and costly. It consists of a sleeved gown of striped white gauze; a pair of very full Turkish trousers drawn in at the ankle, where they are finished off with a revers of thick embroidery; a long sash, also of gauze; a sleeveless vest, and a coat reaching to the knees, both of crimson velvet, handsomely trimmed round the borders with elaborate gold embroidery. The hair is separated into three tresses, one of which floats on the shoulders, the other two being twisted round the little red fez which is worn on the head, and kept in place by a kerchief of silk. The dark-blue fez-tassel, which is very full and long, is ornamented with tiny plates of gold or with seed-pearls, and droops on the left shoulder. Formerly the Moslem women went barefoot, but they now wear embroidered slippers in the house and yellow *babouches* out of doors. The Miridite women

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The Typical Mountain Gheg - Malsia e Madhe.

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B: Coon E-5 (1929-30; 46-48) 1950 ECI Albania ECI Highland Obegs

|                                 | Total Series |       | MEM |       | DUK |        | MRJ |        | HAS |       | LUM |        | PUK |       | MER |       | ZAD |       | MAT |       | DIB |       |
|---------------------------------|--------------|-------|-----|-------|-----|--------|-----|--------|-----|-------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                                 | #            | %     | #   | %     | #   | %      | #   | %      | #   | %     | #   | %      | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Total                           | 1067         |       | 105 |       | 106 |        | 104 |        | 114 |       | 109 |        | 102 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| <b>Bathrocephaly</b>            |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs.                            | 756          | 71.04 | 92  | 88.57 | 56  | 52.83  | 58  | 55.77  | 80  | 70.18 | 63  | 57.80  | 84  | 83.36 | 71  | 70.30 | 94  | 89.52 | 78  | 75.00 | 75  | 69.44 |
| sm.                             | 5            | .47   |     |       |     |        |     |        | 2   | 2.02  |     |        | 1   | .98   |     |       |     |       |     |       |     |       |
| +                               | 291          | 27.27 | 12  | 11.43 | 48  | 45.30  | 44  | 42.31  | 28  | 24.56 | 44  | 40.37  | 19  | 18.80 | 29  | 28.71 | 11  | 10.48 | 28  | 26.90 | 31  | 28.70 |
| ++                              | 7            | .66   |     |       | 2   | 1.89   | 1   | .98    | 1   | .88   | 1   | .92    | 1   | .98   |     |       |     |       |     |       | 1   | .93   |
| +++                             | 8            | .75   |     |       | 1   | .98    | 1   | .98    | 2   | 1.75  |     |        |     |       | 1   | .99   |     |       |     |       | 1   | .97   |
| <b>Cranial asymmetry, left</b>  |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs.                            | 955          | 89.50 | 89  | 84.78 | 102 | 96.23  | 98  | 94.23  | 98  | 85.98 | 95  | 87.16  | 94  | 92.16 | 89  | 88.12 | 95  | 90.48 | 93  | 89.42 | 94  | 87.04 |
| sm.                             | 19           | 1.78  | 3   | 2.86  | 2   | 1.89   |     |        | 2   | 1.82  | 5   | 4.59   | 1   | .92   | 2   | 1.98  | 2   | 1.90  | 1   | .98   |     |       |
| +                               | 74           | 6.94  | 12  | 11.43 | 2   | 1.89   | 3   | 2.88   | 7   | 6.14  | 12  | 11.01  | 8   | 7.88  | 7   | 6.87  | 8   | 7.77  | 11  | 10.19 |     |       |
| ++                              | 18           | 1.69  | 1   | .95   |     |        | 1   | .98    | 3   | 2.62  | 1   | .92    | 1   | .98   | 3   | 2.97  | 1   | .95   | 4   | 3.85  | 3   | 2.78  |
| +++                             | 1            | .09   |     |       |     |        |     |        | 1   | .88   |     |        |     |       |     |       |     |       |     |       |     |       |
| <b>Cranial asymmetry, right</b> |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs.                            | 782          | 74.32 | 67  | 63.81 | 84  | 79.25  | 77  | 74.04  | 91  | 79.82 | 85  | 77.98  | 87  | 85.29 | 78  | 76.22 | 84  | 80.95 | 68  | 65.38 | 82  | 75.82 |
| sm.                             | 72           | 6.78  | 13  | 12.38 | 8   | 7.49   | 8   | 7.77   | 3   | 2.62  | 5   | 4.59   | 6   | 5.88  | 6   | 5.84  | 13  | 12.38 | 4   | 3.85  | 5   | 4.63  |
| +                               | 182          | 17.08 | 23  | 21.90 | 12  | 11.32  | 31  | 29.19  | 14  | 12.28 | 18  | 16.51  | 9   | 8.82  | 19  | 18.85 | 23  | 22.81 | 29  | 26.92 | 18  | 16.81 |
| ++                              | 20           | 1.87  |     |       | 1   | .94    |     |        | 8   | 7.29  | 1   | .92    |     |       | 1   | .98   | 3   | 2.85  | 6   | 5.77  | 5   | 4.63  |
| +++                             | 1            | .09   |     |       |     |        |     |        | 1   | .88   |     |        |     |       |     |       |     |       |     |       |     |       |
| <b>Facial asymmetry, left</b>   |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs.                            | 1020         | 96.44 | 102 | 97.14 | 108 | 100.00 | 103 | 98.04  | 108 | 94.74 | 102 | 93.88  | 101 | 99.02 | 100 | 99.01 | 98  | 91.43 | 101 | 97.12 | 101 | 93.52 |
| sm.                             | 1            | .09   |     |       |     |        |     |        |     |       |     |        |     |       |     |       | 1   | .95   |     |       |     |       |
| +                               | 39           | 3.73  | 3   | 2.88  |     |        | 1   | .98    | 5   | 4.39  | 5   | 4.59   | 1   | .98   | 1   | .99   | 7   | 6.67  | 2   | 1.92  | 4   | 3.70  |
| ++                              | 8            | .75   |     |       |     |        |     |        | 2   | 1.83  |     |        |     |       |     |       | 1   | .95   | 1   | .98   | 3   | 2.78  |
| <b>Facial asymmetry, right</b>  |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Abs.                            | 1042         | 97.68 | 102 | 97.14 | 105 | 99.06  | 104 | 100.00 | 108 | 95.61 | 109 | 100.00 | 97  | 95.10 | 99  | 98.02 | 102 | 97.14 | 101 | 97.12 | 105 | 97.22 |
| +                               | 19           | 1.69  | 2   | 1.90  | 1   | .94    |     |        | 3   | 2.62  |     |        | 4   | 3.92  | 2   | 1.98  | 2   | 1.90  | 3   | 2.88  | 2   | 1.85  |
| ++                              | 7            | .66   | 1   | .95   |     |        |     |        | 3   | 2.62  |     |        | 1   | .98   |     |       | 1   | .95   |     |       | 1   | .93   |
| <b>Handedness</b>               |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Left                            | 74           | 6.94  | 11  | 10.48 | 3   | 2.83   | 5   | 4.81   | 8   | 7.24  | 8   | 7.34   | 7   | 6.86  | 9   | 7.93  | 8   | 7.71  | 12  | 11.54 | 7   | 6.48  |
| Right                           | 989          | 92.41 | 93  | 88.57 | 103 | 97.17  | 99  | 95.19  | 107 | 93.86 | 100 | 91.74  | 94  | 92.16 | 91  | 90.10 | 96  | 94.29 | 92  | 88.48 | 100 | 92.59 |
| Ambid.                          | 7            | .66   | 1   | .95   |     |        |     |        | 1   | .88   | 1   | .92    | 1   | .98   | 2   | 1.98  |     |       |     |       | 1   | .93   |
| <b>IV. THE PILON SYSTEM</b>     |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| Total                           | 1067         |       | 105 |       | 106 |        | 104 |        | 114 |       | 109 |        | 102 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| <b>Eyebrows, thickness</b>      |              |       |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       |     |       |     |       |
| esm.                            | 1            | .09   |     |       |     |        |     |        |     |       |     |        |     |       |     |       |     |       | 1   | .98   |     |       |
| sm.                             | 52           | 4.87  | 5   | 4.78  | 8   | 7.49   | 8   | 7.77   | 4   | 3.51  | 5   | 4.59   | 1   | .98   | 4   | 3.98  | 1   | .95   |     |       | 10  | 9.26  |
| +                               | 295          | 27.89 | 13  | 12.38 | 48  | 45.30  | 44  | 42.31  | 28  | 24.56 | 44  | 40.37  | 19  | 18.80 | 29  | 28.71 | 11  | 10.48 | 28  | 26.90 | 31  | 28.70 |
| ++                              | 116          | 10.87 | 7   | 6.67  | 11  | 10.38  | 9   | 8.71   | 12  | 10.53 | 18  | 16.51  | 8   | 7.88  | 11  | 10.89 | 8   | 7.77  | 12  | 11.54 | 18  | 16.81 |
| +++                             | 3            | .28   |     |       |     |        |     |        | 2   | 1.75  |     |        |     |       |     |       |     |       |     |       | 1   | .93   |

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B: Coon

E-5 (1929-30; 46-48) 1950

EGI Albania EGI  
Highland Cheps

|                             | Total Series |       | MEM |       | DUK |       | MEJ |       | AS  |       | LUM |       | PUK  |       | MIR  |       | ZAD  |       | MAT |       | DIB   |       |
|-----------------------------|--------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|-----|-------|-------|-------|
|                             | #            | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #    | %     | #    | %     | #    | %     | #   | %     | #     | %     |
| Total                       | 1067         |       | 105 |       | 104 |       | 104 |       | 114 |       | 100 |       | 102  |       | 101  |       | 105  |       | 104 |       | 108   |       |
| Eyebrows, concurrency       |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Abs.                        | 311          | 29.15 | 31  | 29.93 | 26  | 24.93 | 33  | 31.73 | 42  | 36.84 | 30  | 35.78 | 20   | 19.61 | 34   | 35.64 | 38   | 36.67 | 30  | 28.85 | 23    | 22.15 |
| sm                          | 4            | .37   |     |       |     |       |     |       | 2   | 1.75  |     | .82   |      |       |      |       |      |       |     |       | 1     | .93   |
| cm                          | 388          | 37.30 | 43  | 40.95 | 34  | 32.09 | 31  | 29.81 | 40  | 35.99 | 38  | 34.86 | 41   | 40.20 | 37   | 36.63 | 38   | 34.29 | 41  | 39.42 | 44    | 40.60 |
| +                           | 299          | 28.02 | 38  | 36.67 | 40  | 37.74 | 37  | 35.58 | 39  | 31.93 | 33  | 31.10 | 30   | 38.24 | 21   | 20.79 | 35   | 33.33 | 24  | 23.08 | 22    | 20.37 |
| ++                          | 53           | 4.97  | 3   | 2.85  | 8   | 8.68  | 3   | 2.88  | 4   | 3.61  | 8   | 7.34  | 1    | .88   | 7    | 6.93  | 8    | 5.71  | 9   | 8.65  | 8     | 5.88  |
| +++                         | 2            | .19   |     |       |     |       |     |       | 1   | .88   |     |       | 1    | .88   |      |       |      |       |     |       |       |       |
| Eyebrows, lateral extension |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Abs.                        | 38           | 3.37  | 4   | 3.81  | 1   | .94   | 2   | 1.92  | 5   | 4.39  | 3   | 2.75  |      |       | 2    | 1.88  | 3    | 2.90  | 9   | 8.65  | 7     | 6.48  |
| sm                          | 320          | 29.99 | 31  | 29.52 | 8   | 7.55  | 18  | 17.31 | 61  | 53.51 | 39  | 35.78 | 19   | 18.63 | 38   | 37.62 | 20   | 19.05 | 41  | 39.42 | 44    | 40.74 |
| cm                          | 648          | 60.74 | 68  | 64.78 | 91  | 86.85 | 74  | 71.19 | 45  | 39.47 | 55  | 50.48 | 78   | 74.51 | 55   | 54.46 | 74   | 70.49 | 51  | 49.04 | 61    | 47.22 |
| +                           | 91           | 5.72  | 3   | 1.00  | 8   | 5.68  | 10  | 9.62  | 3   | 2.63  | 12  | 11.01 | 7    | 6.86  | 5    | 4.95  | 8    | 7.82  | 3   | 2.88  | 5     | 4.63  |
| Hair form                   |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Straight                    | 3            | .28   |     |       |     |       |     |       |     |       |     |       |      |       | 2    | 1.88  |      |       | 1   | .96   |       |       |
| Low waves                   | 735          | 68.88 | 62  | 59.05 | 75  | 70.75 | 92  | 88.48 | 55  | 48.25 | 90  | 73.30 | 62   | 58.27 | 77   | 76.34 | 81   | 77.14 | 75  | 72.12 | 68    | 61.11 |
| Deep waves                  | 301          | 28.21 | 38  | 34.29 | 26  | 24.53 | 10  | 9.62  | 90  | 81.79 | 21  | 19.27 | 31   | 30.39 | 22   | 21.78 | 34   | 32.88 | 27  | 25.98 | 40    | 37.04 |
| Curly                       | 28           | 2.63  | 7   | 6.68  | 5   | 4.72  | 2   | 1.92  |     |       | 8   | 7.34  | 3    | 2.94  |      |       |      |       | 1   | .96   | 2     | 1.88  |
| Hair texture                |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Coarse                      | 4            | .37   |     |       |     |       |     |       |     |       |     |       |      |       |      |       | 1    | .95   | 3   | 2.88  |       |       |
| Medium                      | 854          | 80.04 | 78  | 74.29 | 84  | 79.26 | 93  | 89.42 | 83  | 73.61 | 100 | 91.74 | 78   | 76.47 | 78   | 75.25 | 75   | 71.43 | 91  | 87.50 | 88    | 81.68 |
| Fine                        | 309          | 16.59 | 27  | 25.71 | 22  | 20.78 | 11  | 10.58 | 31  | 27.19 | 8   | 8.28  | 26   | 23.53 | 25   | 24.75 | 29   | 27.82 | 10  | 9.62  | 20    | 18.53 |
| Total                       | 1048         |       | 105 |       | 104 |       | 98  |       | 111 |       | 104 |       | 88   |       | 101  |       | 104  |       | 102 |       | 108   |       |
| Baldness                    |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Abs.                        | 805          | 76.94 | 87  | 82.95 | 83  | 79.81 | 78  | 79.80 | 60  | 54.05 | 80  | 78.47 | 80   | 81.63 | 70   | 78.22 | 85   | 81.73 | 89  | 87.35 | 78    | 72.22 |
| sm                          | 22           | 2.10  | 1   | .95   |     |       |     |       | 12  | 10.81 | 2   | 1.89  | 1    | 1.02  | 3    | 2.87  |      |       | 3   | 2.78  |       |       |
| cm                          | 128          | 12.24 | 11  | 10.48 | 13  | 12.50 | 10  | 10.20 | 29  | 22.52 | 13  | 12.26 | 12   | 12.35 | 9    | 9.90  | 9    | 8.65  | 4   | 3.82  | 28    | 18.53 |
| +                           | 72           | 6.88  | 4   | 3.61  | 8   | 7.78  | 8   | 8.16  | 11  | 9.91  | 8   | 7.55  | 3    | 3.08  | 9    | 7.92  | 8    | 7.60  | 4   | 3.82  | 8     | 5.88  |
| ++                          | 18           | 1.53  |     |       |     |       | 2   | 2.04  | 2   | 1.80  | 3   | 2.83  | 2    | 2.04  | 1    | .99   | 2    | 1.92  | 3   | 2.94  | 1     | .93   |
| +++                         | 3            | .29   | 2   | 1.90  |     |       |     |       | 1   | .88   |     |       |      |       |      |       |      |       |     |       |       |       |
| Hair quantity, head         |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Abs.                        | 1            | .10   |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       | 1     | .93   |
| sm                          | 7            | .67   | 1   | .95   |     |       | 1   | 1.12  | 1   | .90   |     |       | 1    | 1.02  |      |       |      |       | 1   | .98   | 2     | 1.88  |
| cm                          | 138          | 13.00 | 10  | 9.52  | 17  | 16.35 | 8   | 8.16  | 25  | 22.52 | 10  | 9.43  | 8    | 6.18  | 17   | 16.83 | 14   | 13.38 | 11  | 10.78 | 13    | 12.04 |
| +                           | 844          | 80.89 | 94  | 89.52 | 91  | 77.88 | 85  | 86.73 | 78  | 70.37 | 87  | 82.08 | 88   | 89.80 | 78   | 75.25 | 87   | 83.63 | 89  | 87.25 | 72    | 66.67 |
| ++                          | 58           | 5.54  |     |       | 8   | 7.77  | 4   | 4.08  | 7   | 6.31  |     | 8     | 6.40 | 1     | 1.02 | 8     | 7.62 | 1     | .98 | 29    | 18.53 |       |
| Total                       | 1067         |       | 105 |       | 104 |       | 104 |       | 114 |       | 109 |       | 102  |       | 101  |       | 105  |       | 104 |       | 108   |       |
| Hair quantity, mustache     |              |       |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| Abs.                        | 1            | .09   |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |     |       |       |       |
| sm                          | 15           | 1.41  |     |       |     |       | 3   | 2.82  |     |       | 1   | .82   |      |       |      |       |      |       |     |       | 2     | 1.85  |
| cm                          | 81           | 7.59  | 1   | .95   | 8   | 7.55  | 8   | 7.77  | 8   | 7.99  | 12  | 11.01 | 11   | 10.78 | 6    | 5.94  | 7    | 6.67  | 14  | 13.46 | 7     | 6.48  |
| +                           | 729          | 68.32 | 80  | 76.18 | 80  | 75.47 | 83  | 79.81 | 77  | 67.94 | 66  | 59.63 | 70   | 68.63 | 60   | 57.33 | 70   | 68.67 | 71  | 68.27 | 62    | 57.41 |
| ++                          | 240          | 22.69 | 24  | 22.88 | 18  | 16.98 | 13  | 11.34 | 27  | 23.68 | 20  | 26.61 | 18   | 17.85 | 26   | 24.76 | 28   | 24.76 | 19  | 18.27 | 27    | 24.78 |
| +++                         | 1            | .09   |     |       |     |       |     |       | 1   | .88   |     |       |      |       |      |       |      |       |     |       |       |       |

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8: Coon E-5 (1929-30; 46-48) 1950 EGI Albania EGI Highland Chege

|                              | Total Series |       | MEM |        | DUK |        | MEJ |        | RAS |       | LUM |       | PUK |        | MIR |        | ZAD |        | MAT |        | DHS |        |
|------------------------------|--------------|-------|-----|--------|-----|--------|-----|--------|-----|-------|-----|-------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|
|                              | #            | %     | #   | %      | #   | %      | #   | %      | #   | %     | #   | %     | #   | %      | #   | %      | #   | %      | #   | %      | #   | %      |
| Total                        | 1087         |       | 105 |        | 106 |        | 104 |        | 114 |       | 109 |       | 103 |        | 101 |        | 105 |        | 104 |        | 108 |        |
| Hair quantity, cheeks        |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 50           | 4.60  | 3   | 1.90   | 2   | 1.80   | 6   | 5.77   | 5   | 4.39  | 6   | 5.50  | 6   | 5.88   | 4   | 3.94   | 2   | 1.90   | 5   | 4.81   | 11  | 10.19  |
| asm                          | 52           | 4.87  |     |        | 2   | 1.80   | 4   | 3.85   | 7   | 6.14  | 5   | 4.59  | 10  | 9.80   | 11  | 10.89  | 7   | 6.67   | 4   | 3.85   | 2   | 1.85   |
| sm                           | 199          | 17.71 | 13  | 13.38  | 18  | 16.98  | 15  | 14.42  | 23  | 20.18 | 36  | 32.35 | 18  | 17.68  | 19  | 18.81  | 20  | 19.05  | 29  | 27.98  | 14  | 12.96  |
| +                            | 542          | 50.00 | 85  | 81.90  | 88  | 82.28  | 87  | 84.42  | 82  | 75.81 | 49  | 44.95 | 50  | 48.02  | 44  | 43.59  | 51  | 48.57  | 47  | 45.10  | 49  | 45.44  |
| +++                          | 253          | 21.84 | 25  | 23.81  | 18  | 16.98  | 12  | 11.54  | 28  | 24.81 | 39  | 35.61 | 18  | 17.65  | 23  | 22.77  | 25  | 23.81  | 19  | 18.27  | 23  | 20.56  |
| +++                          | 1            | .09   |     |        |     |        |     |        | 1   | .88   |     |       |     |        |     |        |     |        |     |        |     |        |
| Hair quantity, jaw           |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 21           | 1.97  |     |        | 2   | 1.80   | 4   | 3.85   |     |       | 5   | 4.59  | 3   | 2.94   | 2   | 1.98   | 1   | .95    |     |        | 3   | 2.79   |
| asm                          | 28           | 2.62  | 2   | 1.90   |     |        | 2   | 1.92   | 6   | 5.28  | 3   | 2.75  | 3   | 2.94   | 5   | 4.95   | 4   | 3.81   | 1   | .98    | 2   | 1.85   |
| sm                           | 183          | 17.15 | 5   | 4.79   | 15  | 14.16  | 15  | 14.42  | 20  | 17.54 | 18  | 16.51 | 23  | 22.55  | 20  | 19.80  | 15  | 14.29  | 34  | 32.69  | 18  | 16.67  |
| +                            | 595          | 55.76 | 73  | 69.52  | 71  | 66.88  | 71  | 68.27  | 60  | 53.63 | 54  | 49.54 | 55  | 53.92  | 50  | 48.50  | 58  | 56.19  | 50  | 48.08  | 48  | 45.37  |
| +++                          | 239          | 22.40 | 25  | 23.81  | 19  | 18.00  | 12  | 11.54  | 27  | 23.68 | 39  | 35.61 | 18  | 17.65  | 24  | 23.74  | 26  | 24.76  | 19  | 18.27  | 28  | 23.33  |
| +++                          | 1            | .09   |     |        |     |        |     |        | 1   | .88   |     |       |     |        |     |        |     |        |     |        |     |        |
| Hair quantity, arms and legs |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 6            | .56   |     |        |     |        |     |        |     |       | 1   | .92   | 1   | .98    | 3   | 2.97   |     |        | 1   | .98    |     |        |
| asm                          | 10           | .94   |     |        |     |        | 1   | .99    |     |       | 3   | 1.83  |     |        | 2   | 2.97   | 1   | .95    | 2   | 1.92   | 1   | .93    |
| sm                           | 280          | 26.24 | 12  | 11.43  | 18  | 16.98  | 24  | 23.08  | 28  | 24.81 | 31  | 28.44 | 36  | 35.29  | 33  | 32.67  | 34  | 32.86  | 41  | 39.42  | 34  | 31.68  |
| +                            | 638          | 59.79 | 87  | 82.86  | 78  | 71.70  | 89  | 86.35  | 83  | 75.26 | 53  | 48.42 | 54  | 51.94  | 52  | 51.49  | 70  | 67.67  | 55  | 52.89  | 52  | 48.15  |
| +++                          | 132          | 12.37 | 6   | 5.71   | 12  | 11.32  | 10  | 9.62   | 25  | 21.93 | 22  | 20.18 | 11  | 10.78  | 10  | 9.90   | 10  | 9.52   | 9   | 8.81   | 20  | 18.52  |
| +++                          | 1            | .09   |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        | 1   | .93    |
| Hair quantity, chest         |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 249          | 22.94 | 22  | 20.95  | 7   | 6.60   | 39  | 37.89  | 18  | 16.04 | 37  | 33.94 | 32  | 31.37  | 18  | 17.82  | 28  | 26.78  | 37  | 35.58  | 24  | 22.22  |
| asm                          | 14           | 1.30  |     |        |     |        |     |        | 7   | 6.14  |     |       | 1   | .98    | 3   | 2.97   | 1   | .95    |     |        | 2   | 1.85   |
| sm                           | 245          | 22.88 | 14  | 13.33  | 28  | 26.42  | 20  | 19.23  | 28  | 24.81 | 25  | 22.94 | 37  | 36.47  | 33  | 32.77  | 39  | 36.67  | 39  | 37.98  | 35  | 32.15  |
| +                            | 378          | 35.43 | 48  | 45.71  | 55  | 51.88  | 48  | 44.23  | 41  | 35.98 | 28  | 25.85 | 32  | 32.25  | 39  | 38.41  | 31  | 29.53  | 23  | 22.04  | 30  | 27.78  |
| +++                          | 170          | 15.93 | 21  | 20.00  | 15  | 14.15  | 9   | 8.65   | 19  | 16.87 | 21  | 19.27 | 8   | 7.84   | 16  | 15.84  | 19  | 18.10  | 12  | 11.54  | 28  | 24.07  |
| +++                          | 11           | 1.02  |     |        | 1   | .94    |     |        | 5   | 4.39  |     |       | 1   | .98    | 2   | 1.98   |     |        | 1   | .98    |     |        |
| Whiteness, head              |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Present                      | 10           | .93   |     |        |     |        |     |        | 2   | 1.79  | 8   | 4.59  |     |        |     |        |     |        |     |        | 2   | 1.85   |
| Absent                       | 1087         | 99.08 | 105 | 100.00 | 106 | 100.00 | 104 | 100.00 | 112 | 98.25 | 104 | 95.41 | 102 | 100.00 | 101 | 100.00 | 105 | 100.00 | 103 | 99.94  | 106 | 98.15  |
| Whiteness, mustache          |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Present                      | 7            | .65   |     |        |     |        |     |        | 2   | 1.79  | 5   | 4.59  |     |        |     |        |     |        |     |        |     |        |
| Absent                       | 1080         | 99.34 | 105 | 100.00 | 106 | 100.00 | 104 | 100.00 | 112 | 98.25 | 104 | 95.41 | 102 | 100.00 | 101 | 100.00 | 105 | 100.00 | 104 | 100.00 | 106 | 100.00 |
| Grayness, head               |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 890          | 84.67 | 73  | 69.52  | 80  | 75.47  | 79  | 73.98  | 51  | 44.74 | 74  | 67.89 | 69  | 67.05  | 57  | 56.44  | 45  | 61.80  | 78  | 73.69  | 82  | 87.41  |
| asm                          | 25           | 2.33  | 1   | .95    |     |        |     |        | 6   | 5.28  |     |       | 4   | 3.92   | 8   | 7.92   | 1   | .95    | 3   | 2.89   | 2   | 1.85   |
| sm                           | 117          | 10.97 | 12  | 11.43  | 13  | 12.28  | 12  | 11.54  | 18  | 16.04 | 19  | 17.83 | 7   | 6.86   | 10  | 9.90   | 11  | 10.49  | 7   | 6.73   | 15  | 13.89  |
| +                            | 148          | 13.17 | 11  | 10.49  | 7   | 6.60   | 8   | 7.80   | 18  | 15.79 | 14  | 12.84 | 17  | 16.67  | 16  | 15.84  | 17  | 16.19  | 11  | 10.56  | 17  | 15.74  |
| +++                          | 78           | 7.31  | 6   | 5.71   | 5   | 4.72   | 5   | 4.61   | 19  | 16.87 | 9   | 8.26  | 4   | 3.92   | 8   | 7.92   | 3   | 2.89   | 8   | 7.77   | 11  | 10.19  |
| +++                          | 17           | 1.58  | 2   | 1.90   | 1   | .94    |     |        | 4   | 3.51  | 2   | 1.83  | 1   | .98    | 2   | 1.98   | 3   | 2.89   | 1   | .98    |     |        |
| Grayness, mustache and beard |              |       |     |        |     |        |     |        |     |       |     |       |     |        |     |        |     |        |     |        |     |        |
| Abs.                         | 775          | 72.62 | 78  | 74.29  | 67  | 62.98  | 88  | 84.62  | 73  | 64.04 | 83  | 76.18 | 76  | 74.51  | 69  | 64.38  | 69  | 61.90  | 84  | 80.77  | 70  | 64.81  |
| asm                          | 4            | .37   | 1   | .95    |     |        |     |        | 1   | .88   | 1   | .82   |     |        | 1   | .99    |     |        |     |        |     |        |
| sm                           | 93           | 7.78  | 6   | 5.71   | 7   | 6.56   | 3   | 2.88   | 7   | 6.14  | 7   | 6.42  | 9   | 8.80   | 10  | 9.90   | 15  | 14.29  | 9   | 7.99   | 11  | 10.19  |
| +                            | 130          | 12.18 | 15  | 14.29  | 7   | 6.60   | 9   | 8.65   | 18  | 15.79 | 9   | 8.26  | 15  | 14.71  | 15  | 14.85  | 18  | 17.14  | 8   | 7.69   | 15  | 13.89  |
| +++                          | 84           | 8.00  | 4   | 3.81   | 4   | 3.77   | 4   | 3.65   | 13  | 11.60 | 7   | 6.42  | 3   | 2.94   | 8   | 7.92   | 6   | 5.71   | 3   | 2.89   | 12  | 11.11  |
| +++                          | 11           | 1.03  | 1   | .95    |     |        |     |        | 1   | .88   | 2   | 1.83  | 2   | 1.98   | 2   | 1.98   | 1   | .95    | 1   | .98    |     |        |

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|                             | Total Series |       | MEM |        | DUR |       | MEJ |       | HAS |       | LUM |       | PUK |       | MIR |       | ZAD |       | MAT |       | DIB |       |
|-----------------------------|--------------|-------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                             | #            | %     | #   | %      | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| <b>V. PIGMENTATION</b>      |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| <b>Skin Color</b>           |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                       | 1087         |       | 105 |        | 108 |       | 104 |       | 114 |       | 109 |       | 103 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| Light                       | 977          | 91.57 | 105 | 100.00 | 101 | 93.28 | 100 | 96.15 | 91  | 79.82 | 99  | 90.83 | 92  | 90.20 | 94  | 93.15 | 100 | 95.24 | 94  | 90.38 | 100 | 92.59 |
| Medium                      | 83           | 7.79  | 0   | 0.00   | 5   | 4.72  | 4   | 3.85  | 22  | 19.30 | 8   | 7.34  | 8   | 7.84  | 14  | 13.90 | 4   | 3.81  | 10  | 9.43  | 8   | 7.41  |
| Dark                        | 7            | .68   | 0   | 0.00   | 0   | 0.00  | 0   | 0.00  | 1   | .88   | 2   | 1.83  | 2   | 1.96  |     |       | 1   | .95   | 0   | 0.00  | 0   | 0.00  |
| <b>Vascularity</b>          |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                       | 1066         |       | 105 |        | 108 |       | 104 |       | 113 |       | 109 |       | 103 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| Abs.                        | 18           | 1.69  |     |        | 1   | .94   | 2   | 1.92  |     |       | 1   | .92   | 5   | 4.90  | 5   | 4.95  | 3   | 2.86  | 1   | .96   | 1   | .93   |
| sm                          | 1            | .09   |     |        |     |       |     |       |     |       |     |       | 1   | .98   |     |       |     |       |     |       |     |       |
| sm                          | 207          | 19.42 | 21  | 20.00  | 10  | 9.43  | 22  | 21.15 | 22  | 19.47 | 23  | 20.19 | 21  | 20.50 | 33  | 32.87 | 20  | 19.05 | 18  | 17.31 | 17  | 15.74 |
| +                           | 712          | 66.70 | 70  | 66.67  | 95  | 89.82 | 79  | 75.00 | 82  | 72.57 | 74  | 67.89 | 86  | 83.73 | 53  | 52.48 | 69  | 65.71 | 73  | 70.19 | 77  | 71.30 |
| ++                          | 128          | 12.01 | 14  | 13.33  |     |       | 2   | 1.92  | 39  | 34.51 | 12  | 11.01 | 9   | 8.82  | 10  | 9.90  | 14  | 13.33 | 12  | 11.54 | 13  | 12.04 |
| +++                         | 1            | .09   |     |        |     |       |     |       |     |       |     |       | 1   | .98   |     |       |     |       |     |       |     |       |
| <b>Hair color, head</b>     |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                       | 1030         |       | 105 |        | 108 |       | 103 |       | 98  |       | 102 |       | 103 |       | 101 |       | 105 |       | 103 |       | 98  |       |
| Black                       | 423          | 41.07 | 40  | 38.10  | 22  | 20.75 | 40  | 38.78 | 39  | 37.46 | 48  | 45.10 | 40  | 38.32 | 53  | 52.48 | 43  | 40.95 | 32  | 31.37 | 41  | 41.41 |
| Dark brown                  | 476          | 46.21 | 47  | 44.76  | 70  | 66.04 | 54  | 52.43 | 32  | 31.02 | 47  | 45.08 | 54  | 52.04 | 35  | 34.65 | 49  | 48.67 | 53  | 51.98 | 42  | 42.42 |
| Red brown                   | 16           | 1.55  | 1   | .95    | 4   | 3.77  | 1   | .97   | 1   | .98   |     |       | 1   | .98   | 1   | .99   |     |       | 5   | 4.90  | 3   | 2.82  |
| Light brown                 | 90           | 8.74  | 14  | 13.33  | 7   | 6.60  | 4   | 3.88  | 7   | 7.20  | 6   | 5.88  | 6   | 5.88  | 11  | 10.89 | 13  | 12.38 | 11  | 10.78 | 10  | 10.10 |
| Ash-blond                   | 2            | .19   |     |        |     |       | 1   | .97   |     |       |     |       |     |       |     |       |     |       |     |       | 1   | 1.01  |
| Golden                      | 21           | 2.04  | 2   | 1.90   | 3   | 2.83  | 1   | .97   | 6   | 5.25  | 3   | 2.94  | 1   | .98   | 1   | .99   |     |       | 1   | .98   | 3   | 2.93  |
| Red                         | 2            | .19   | 1   | .95    |     |       |     |       | 1   | .98   |     |       |     |       |     |       |     |       |     |       |     |       |
| <b>Hair color, mustache</b> |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                       | 1054         |       | 105 |        | 105 |       | 103 |       | 109 |       | 105 |       | 102 |       | 101 |       | 105 |       | 104 |       | 106 |       |
| Black                       | 85           | 8.17  | 4   | 3.81   | 3   | 2.86  | 9   | 8.74  | 8   | 7.34  | 9   | 8.57  | 7   | 6.86  | 10  | 9.90  | 3   | 2.88  | 6   | 5.77  | 5   | 4.72  |
| Dark brown                  | 277          | 26.28 | 35  | 33.33  | 39  | 37.14 | 42  | 40.78 | 22  | 20.18 | 29  | 27.62 | 29  | 28.43 | 24  | 23.78 | 15  | 14.29 | 20  | 20.04 | 10  | 10.09 |
| Red brown                   | 378          | 35.87 | 36  | 34.29  | 41  | 39.05 | 23  | 22.33 | 30  | 27.52 | 34  | 32.38 | 25  | 24.51 | 42  | 41.58 | 49  | 48.67 | 41  | 39.42 | 40  | 40.23 |
| Light brown                 | 195          | 18.50 | 19  | 18.10  | 11  | 10.48 | 19  | 18.45 | 24  | 22.02 | 20  | 19.05 | 30  | 29.41 | 13  | 12.87 | 25  | 24.00 | 17  | 16.35 | 18  | 16.98 |
| Ash-blond                   | 9            | .88   |     |        | 1   | .95   | 1   | .97   |     |       |     |       | 1   | .98   |     |       |     |       | 1   | .96   |     |       |
| Golden                      | 103          | 9.77  | 7   | 6.67   | 4   | 3.81  | 6   | 5.83  | 20  | 18.25 | 12  | 11.43 | 8   | 7.84  | 5   | 4.95  | 10  | 9.52  | 14  | 13.48 | 17  | 16.04 |
| Red                         | 34           | 3.23  | 4   | 3.81   | 6   | 5.71  | 3   | 2.91  | 5   | 4.69  |     |       | 2   | 1.96  | 7   | 6.93  | 5   | 4.76  | 1   | .98   |     |       |
| <b>Eye color</b>            |              |       |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total                       | 1067         |       | 105 |        | 108 |       | 104 |       | 114 |       | 109 |       | 102 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| Black                       | 1            | .09   |     |        | 1   | .94   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Dark brown                  | 144          | 13.50 | 7   | 6.67   | 25  | 23.58 | 24  | 23.08 | 9   | 7.92  | 19  | 17.43 | 13  | 12.75 | 15  | 14.80 | 6   | 5.71  | 0   | 0.00  | 19  | 13.80 |
| Light brown                 | 32           | 2.98  | 2   | 1.90   |     |       | 1   | .96   | 2   | 1.78  |     |       | 1   | .98   |     |       | 2   | 1.90  | 0   | 0.00  | 15  | 13.80 |
| Dark light brown            | 1            | .09   |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Gray brown                  | 537          | 50.33 | 52  | 49.52  | 57  | 53.77 | 56  | 53.85 | 59  | 52.63 | 55  | 50.46 | 53  | 51.98 | 40  | 39.00 | 59  | 53.33 | 55  | 52.04 | 53  | 49.07 |
| Gray brown                  | 80           | 7.50  | 9   | 8.57   | 4   | 3.77  | 5   | 4.81  | 11  | 10.58 | 20  | 18.31 | 20  | 19.61 | 17  | 16.83 | 5   | 4.76  | 12  | 11.54 | 8   | 7.78  |
| Black brown                 | 204          | 19.12 | 27  | 25.71  | 14  | 13.21 | 11  | 10.58 |     |       |     |       |     |       |     |       |     |       | 13  | 12.50 | 18  | 16.67 |
| Gray                        | 1            | .09   |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Gray blue                   | 2            | .19   |     |        |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Blue                        | 64           | 6.00  | 8   | 7.62   | 5   | 4.72  | 6   | 5.77  | 11  | 10.58 | 9   | 8.28  | 5   | 4.90  | 3   | 2.97  | 6   | 5.71  | 7   | 6.73  | 4   | 3.78  |
| Unlike                      | 1            | .09   |     |        |     |       | 1   | .98   |     |       |     |       |     |       |     |       |     |       |     |       |     |       |

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8: Coon E-5 (1929-30; 46-48) 1950

ECI Albania ECI  
Highland Chegs

|                               | Total Series |       | MEM |       | DOK |       | MEJ  |       | RAS  |       | LUM |       | PUN |       | MIR |       | ZAD |       | MAT |       | DIB |       |
|-------------------------------|--------------|-------|-----|-------|-----|-------|------|-------|------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                               | #            | %     | #   | %     | #   | %     | #    | %     | #    | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     | #   | %     |
| Mixed eyes, degree of pigment |              |       |     |       |     |       |      |       |      |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total .....                   | 824.5        |       | 88  |       | 75  |       | 72.5 |       | 93   |       | 78  |       | 83  |       | 81  |       | 91  |       | 83  |       | 74  |       |
| +++ D .....                   | 17           | 2.06  | 3   | 2.27  | 3   | 2.67  | 3    | 4.14  | 1    | 1.08  | 2   | 2.53  | 1   | 1.20  | 1   | 1.23  | 1   | 1.10  | 3   | 2.44  | 2   | 2.70  |
| ++ D .....                    | 217.5        | 26.38 | 23  | 28.14 | 30  | 40.00 | 19   | 26.49 | 22.5 | 24.19 | 18  | 22.78 | 18  | 21.89 | 29  | 35.80 | 18  | 17.88 | 29  | 28.97 | 18  | 21.82 |
| Even .....                    | 196          | 24.01 | 17  | 19.32 | 11  | 14.67 | 18   | 26.80 | 22   | 23.87 | 20  | 25.32 | 23  | 27.71 | 19  | 23.48 | 20  | 22.97 | 21  | 28.81 | 18  | 24.72 |
| ++ L .....                    | 287.5        | 34.87 | 31  | 42.08 | 33  | 38.33 | 28   | 40.00 | 38.5 | 38.17 | 33  | 41.77 | 31  | 37.35 | 33  | 38.40 | 28  | 30.77 | 21  | 25.61 | 38  | 38.14 |
| +++ L .....                   | 184.5        | 12.67 | 9   | 10.23 | 10  | 13.33 | 10.5 | 14.48 | 12   | 12.90 | 6   | 7.59  | 10  | 12.05 | 8   | 11.11 | 12  | 17.88 | 9   | 10.98 | 12  | 16.22 |
| Iris                          |              |       |     |       |     |       |      |       |      |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Total .....                   | 1087         |       | 105 |       | 108 |       | 104  |       | 114  |       | 100 |       | 102 |       | 101 |       | 105 |       | 104 |       | 108 |       |
| Homogeneous .....             | 238          | 21.91 | 17  | 16.19 | 31  | 28.25 | 31   | 29.81 | 31   | 18.42 | 30  | 27.52 | 19  | 18.43 | 30  | 19.80 | 14  | 13.33 | 19  | 18.27 | 33  | 30.56 |
| Rayed .....                   | 412          | 38.02 | 34  | 31.43 | 48  | 45.38 | 42   | 38.38 | 88   | 49.12 | 38  | 33.03 | 48  | 44.12 | 28  | 27.72 | 35  | 33.33 | 30  | 28.85 | 35  | 32.41 |
| Zoned .....                   | 402          | 37.08 | 31  | 29.52 | 27  | 25.47 | 31   | 29.81 | 35   | 29.70 | 43  | 39.43 | 38  | 35.29 | 49  | 48.51 | 44  | 41.43 | 35  | 32.88 | 39  | 36.11 |
| Spotted .....                 | 14           | 1.31  | 3   | 2.86  |     |       |      |       | 2    | 1.75  |     |       | 2   | 1.96  | 4   | 3.96  | 2   | 1.90  |     |       | 1   |       |
| Unmatched .....               | 1            | .09   |     |       |     |       | 1    | .98   |      |       |     |       |     |       |     |       |     |       |     |       |     |       |

[P.54(8)]

[141] prominent, the buttocks medium to small, the calves well developed, the heels a little more projecting than expected, the foot arch about medium. This is a picture of an average man who has led an active out-of-door life in a hard but healthy environment, on a minimum of food which is nevertheless well balanced; he is muscular, lean, and accustomed to walking long distances over rough terrain. From the neck down it would be hard to distinguish him from a shepherd in the Scottish Highlands, a Norwegian from the fjord country, or an Appalachian mountaineer.

[142] Only one physiological test was made: dynamometer squeeze. Despite the cold weather, despite the stiffening of fingers through years of ploughing, the mountaineers produced a mean of 112 pounds, ranging from 45 to 190 (see table 9).

## II. The Face

[141] From the neck up the resemblance to Scot  
[144] and Norwegian would continue in most respects, but would disappear in others. In the more noticeable dimensions of the face it would be quite close. The Albanian mountaineers have moderately long faces, both in the distance from nasion to alveon (the point on the gums between the 2 upper median incisors) and from nasion to menton. It is hard to make close comparisons because individual anthropometrists vary greatly in locating these points. Comparing them with series of which one can be moderately sure that the same techniques were used, we see that the Ghegs are about the same in face length as populations which are predominantly Nordic or which represent the larger varieties of Mediterranean—like the English, the Riffians, and the Basques, and shorter faced than populations with an excess of marginal pre-Neolithic genetic elements, like the Irish and Norwegians. They are longer-faced than the small Mediterranean peoples like Spaniards and southern Italians. The upper face is relatively long in proportion to the total face height; this is usually, in Euro-

<sup>41</sup>  
[128] Thirty-eight observations piece out this picture. Impressions of the foreheads of 1067 men show them to be for the most part of medium height and a little more than medium breadth, with a little less than medium slope on the average. The browridges run moderately large, and glabella is usually prominent. Eye-folds are usually absent, but when they do occur are almost always external, the so-called "Nordic" fold which is common with all narrow-faced Europeans. The almost complete absence of median and internal folds differentiates these people sharply from the Mongoloid and east Baltic populations of northeastern Europe. The wide opening of the eyeslit further emphasizes this difference. Almost one individual out of five shows a little eye obliquity, reminding one of Near Eastern Mediterranean types.

142 The face itself is characteristically gaunt; the malars rarely protrude forward and their lateral extension is only medium. The cheeks are medium to thin, and usually wrinkled, with firm lines around the mouth. The gonial angles protrude only to a normal extent judging by ordinary western European standards. This lean, drawn, and weather-beaten appearance of the face heightens the resemblance of these people to the Scots, Norse, and Basques. The 5 observations on the ears show nothing uncommon for Europeans. The lips run a little above medium in integumental (muscular) thickness, and unusually thin in membrane, reflecting probably bite and eating habits as much as race; they are also less everted than in the normal run of familiar European whites. The lips of the Ghegs look more like those of family portraits of the Revolutionary period than like those of modern Americans. The observation on chin prominence is based on actual slope rather than on fidelity to an ideal mean; the presence of 23 per cent of *m* chins is no greater than would be found in any other narrow-jawed European population. Most of the chins are median; the bilateral form (discovered through palpation) goes with the Alpine and other pre-Mediterranean types in Europe as well as with individuals of unusual robusticity.

The most distinctive feature of the Mountain Gheg face, the nose, almost never springs from glabella without depression, according to

[See cat. 116, pp. 549-544. - Analyst]

- 142 the Greek ideal. Although not unusually high, its root is exceptionally narrow. Its bridge is usually both high and narrow. This combination yields a high frequency, in fact a majority, of convex nasal profiles, giving the Gheg his traditional hawklike appearance. The tip of the nose is medium to thin, more often straight or elevated than depressed, with medium to compressed wings and usually a straight septum. This nose, as the forward segment of a gaunt, triangular face, gives the classical Dinaric his impressive facial appearance.

### III. The Head

- 141 So far we have found only a few measurements and observations to differentiate the ordinary Gheg mountaineer from the shepherd of the Scottish Highlands, the Basque, and the inland Norwegian to whom we first compared him. When we remove his felt cap, however, and study his head, we find that the resemblance ceases. His head is 10 whole millimeters shorter than those of his Atlantic-bordering simulacres, resembling in this respect eastern and central European peoples, and the inhabitants of Armenia, Anatolia, parts of the Caucasus, and the Lebanon. At the same time it is much broader, in fact it is among the broadest heads in Europe. It is difficult to find its exact position regarding height, since head height is notoriously subject to the personal equation. Judging by only those series of which I am sure, I consider the Gheg heads moderately to more-than-average elevated. They do not, however, reach the extremes in this dimension that they do in length and breadth. In the indices of the head, these people are fully brachycephalic, although less extreme in this respect than some of their neighbors, notably the Tosks and some of the mountain-dwelling Yugoslavs, among whom mean indices of 87 and 88 have been recorded. In the length-height indices they rank as hypsicephalic, while in the breadth-height index they take a low position. This merely reflects the moderate head height in comparison with an extreme cranial breadth. The indices which serve to compare the parietal breadth with facial diameters—fronto-parietal and cephalofacial—both emphasize the disproportion between a very broad hind-head and moderate facial breadths. The fronto-parietal and cephalofacial indices, relating the forehead

#### IV. The Pilous System

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The eyebrows of the Gheg mountaineers are close to the European norm, if such a position can be postulated; perhaps they are a little thicker and more concurrent than those of most northern and western populations, but if so the variation is slight. Thirteen more observations show that the Dinaric race as exemplified by these Ghegs is equally normal by European standards. It was not easy in each case to determine hair form. Some men wore scalplocks, and others let the back hair grow long, but others shaved their heads, and if they had done this recently and lacked long mustaches, my estimate was correspondingly less accurate. It is possible that more should for this reason be in the *straight* category, but not many more. Slightly wavy hair is characteristic, and it is of medium to fine texture. Straight coarse hair such as one finds among Mongoloids and many Eastern Europeans is virtually lacking, and curly hair rare. Baldness is rare, particularly considering the age of the sample (of which more later). The thickness of the head hair (in the case of bald men this is observed on the part of the scalp which still has hair) is about medium, while the face hair, including mustache, cheeks, and jaw, are probably a trifle heavier than with northern and eastern Europeans, although not equalling the development of the Alpine population of Bavaria and parts of France. Luckily most men wore luxuriant mustaches and shaved their beards infrequently. Despite their age these mountaineers seem to have had slightly less hair on their limbs and chests than expected in view of their beard growth. One is reminded of a normal Nordic and Mediterranean development rather than that of Alpines. The number of men with fully white hair or beards was negligible; grayness of the head was more prevalent than that of the mustache and beard. In most cases, however, it was possible to tell the color of the still pigmented hairs.

#### V. Pigmentation

Skin color was observed on supposedly unexposed surfaces of the under arm and chest. The vast majority were about the same as the examiners—a pinkish white approximating von Luschan #7. The others were brunet white, in no case darker than one expects to find

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among Greeks or Italians. Almost all possessed the pink or red vascular flush that comes from light, thin skin with outdoor living. Since the measuring was done in the dead of winter, either out of doors or in chilly houses, and since many of the men were inadequately dressed, their rosiness is not surprising.

About one of 9 men had hair that could be called blond or red; of the rest little more than a half were brown haired, and the others black. *Dark brown* included many who might better have been labeled *brown* without further qualification. The mustaches were much lighter; dark and red browns are the rule, while light browns, extreme blonds, and reds come to nearly a third of the whole. Only one-sixth of the sample had pure dark iris pigment, but the number of pure blues and grays was only half as great as that. A three-fourths majority had eyes that were mixed in color, and of these the light mixtures predominate. The prevalence of mixed eye types is reflected in the ratios of rayed, zoned, and spotted irides.

In their pigment characteristics the Mountain Ghegs are about half way between blond and brunet pigment extremes as delimited by the European range; they run to light skins, dark head hair, and intermediate to light mustaches with much red, and a light mixed eye color. In pigmentation they are not very different from the Highland Scots, the Basques, and the Kentucky mountaineers—but considerably darker than the Norwegians. They are fairer than the Italians of the portions of Italy opposite them, and fairer than Tosks, Greeks, Bulgarians, and Serbs, while probably little different from Montenegrins, Bosnians, and Tyrolese.

The Gheg phenotype is thus represented by a moderately tall man, long limbed, strong boned, well muscled, spare and lean, with a thin, bony face of moderate dimensions, a long, narrow, aquiline nose, a short, broad head, often flattened behind, a well-developed mustache and beard, both of which vary in color, a light skin, and mixed eyes. His body hair is only moderately developed. In all characters except those concerned with the breadth and flattening of the head he resembles the Nordic and larger Mediterranean populations of the fringes of Europe more than the stockier, flatter-nosed, and hairier peoples in its east and center. If

- 142 one could compare a series of skeletons of such men with those from the Illyrian Iron Age cemetery at Glasinac, it is hard to see what differences between the means would appear except for the greater frequency of broad, and often occipitally flattened, heads in the living population.

*VARIABILITY OF THE SERIES AS A  
WHOLE AND OF THE TRIBES*

- 141 Any living population may be expected to show a normal frequency distribution in each metrical criterion. This distribution is expressed by the standard deviation (see table 3B)<sup>1</sup>. Standard deviations themselves vary. If the standard deviation exceeds a certain nu-
- \*128

[see cat No, pp. 54d-54e -- Analyst]

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x 28  
diameters of the brain case and their indices are most divergent. The horizontal diameters of the face and their indices differ the least; if a decision rested on them alone it would be hard to demonstrate racial differentiation in the Gheg mountains. Sagittal diameters of the face, and the sagittal-horizontal indices, differ more.

From this we may say that in 3 respects the tribes vary metrically from the total and from one another: (1) in body diameters, greatly; (2) in brain case diameters and indices, nearly as greatly; (3) in the gross lengths of the face—particularly from nose to chin—and in indices dependent on these measurements, to a lesser extent. In one respect the tribes show a degree of relative homogeneity—in the constancy of the horizontal diameters of the face. Even here, however, they differ more than chance alone would warrant.

A similar test has been made of intertribal differences in 78 observations given on table 4;<sup>7</sup> here the differences between tribes and total were not calculated—the method used was to calculate the probable errors of percentages by the tables of Ritala,<sup>8</sup> and to test the significances of the differences between them.

Table 8<sup>7</sup> demonstrates that clear intertribal differences are harder to demonstrate in the observations than in the metrical characters, perhaps by virtue of the nature of the criteria themselves. Since 4 per cent of the differences over 3 p.e. can be ascribed to chance in any case, and since an equal allowance might well be made for technical inaccuracy, differences in cleanliness, in appearance at different temperatures, and light conditions, etc., I find it hard to claim valid regional differences in classes of criteria where fewer than 8 per cent of combinations are over 3 p.e. In face form, in nasal architecture, in hair development, form, and distribution, and in pigmentation, what regional differences occur seem to be of little consequence. These characters are precisely those which most anthropologists feel to be genetic. In these respects, therefore, our Gheg mountaineers are as homogeneous as their history would lead us to expect.

7 [See cat. 116, pp. 54 f -  
54 g - Analyst]

8 [See cat. 116, p. 65 b  
- Analyse]

<sup>8</sup> Ritala. 1933.

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In the observations of the body and of the brain case, however, they differ more than chance and technical error would justify. In these easily influenced characters, regional phenotypes exist.

#### REGIONAL VARIATIONS IN BODY SIZE AND FORM

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The main difference in body size lies in the north-south cleavage between the tribes living on either side of the Drin. Those to the north are a good 6 centimeters taller than those to the south. These differences are greater to the west than to the east, so that 3 areas may be postulated; a tall northwestern, an intermediate eastern, and a short southwestern. These areas differ also in body proportions, in that the northwestern tribes (Malsia e Madhe and Dukagin) are broad-shouldered and long-armed as well, while the eastern tribes, including Malsia e Jakovës, while tall, are slenderer and narrower in the shoulders, with the southwesterners in these criteria short and slender. The acme of robusticity is reached in Dukagin, whose athletic tribesmen exceed all others to a marked degree in these special criteria. Although we lack constants for weight, which would be most valuable here, we have the evidence for dynamometer squeeze, which reveals their superiority in muscular strength (see table 9).

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Dukagin men are a little stronger than those of Malsia e Madhe, but this difference is not significant. However, both Dukagin and Malsia e Madhe are significantly stronger than all of the other tribes. Among the others, Has, Luma, and Puka are all 3 stronger than Mati and Mirdita; Puka is stronger than Zadrime as well, and Malsia e Jakovës is stronger than

\* [see cat. 116, p. 65c  
-- Analyst ]

TABLE 8: INTERTRIBAL COMPARISONS.

|               | No. of<br>CRITERIA | No. of<br>CATEGORIES | No. of<br>COMBINATIONS | No. of<br>COMBINATIONS<br>3 p. e. | No. of<br>COMBINATIONS<br>3 p. e. |
|---------------|--------------------|----------------------|------------------------|-----------------------------------|-----------------------------------|
| Body.....     | 12                 | 39                   | 1755                   | 209                               | 11.5%                             |
| Head.....     | 7                  | 24                   | 1080                   | 131                               | 12.1                              |
| Face.....     | 25                 | 86                   | 2870                   | 206                               | 3.3                               |
| Nose.....     | 11                 | 33                   | 1573                   | 96                                | 6.1                               |
| Pilosity..... | 16                 | 57                   | 2561                   | 177                               | 6.9                               |
| Pigment.....  | 7                  | 32                   | 1440                   | 107                               | 7.4                               |
| Total.....    | 78                 | 273                  | 11,281                 | 920                               | 7.5%                              |

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\*128 Mirdita alone. The same 3 areas stand out again in this test: the northwest, with greatest strength concentrated in Dukagin; the eastern border tribes, including Malsia e Jakovës, Has, Luma, and Dibra; and the southwest, including

Mirdita, Mati, and Zadrima, with Mirdita at the lowest point. It should be observed that the 2 Catholic tribes, Dukagin and Mirdita, supposedly descended from a group of brothers, are the least alike in stature, body proportions, and muscular strength.

TABLE 9: DYNAMOMETER SQUEEZE.

|             | No.  | MEAN          |       |
|-------------|------|---------------|-------|
| Total ..... | 1058 | 112.09 ± .36  | 15.86 |
| McM .....   | 105  | 117.95 ± 1.05 | 15.90 |
| Duk .....   | 106  | 121.20 ± 1.20 | 18.40 |
| MeJ .....   | 104  | 108.30 ± 1.14 | 17.20 |
| Has .....   | 114  | 110.05 ± 1.17 | 18.45 |
| Lum .....   | 109  | 110.25 ± 1.11 | 17.15 |
| Puk .....   | 102  | 112.80 ± 1.24 | 18.60 |
| Mir .....   | 101  | 102.50 ± 1.39 | 20.65 |
| Zad .....   | 105  | 105.75 ± 1.22 | 18.50 |
| Mat .....   | 104  | 104.65 ± 1.32 | 19.90 |
| Dib .....   | 108  | 108.25 ± 1.51 | 23.30 |

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\*128 In the observations of body form, Dukagin stands out as the most athletic of all the tribes, but in general a north-south division prevails. Mentioning only the significant differences, we see that Dukagin exceeds in general musculature, while the southern tribes are least well developed. The 4 southern tribes (Zadrima, Mirdita, Mati, and Dibra) exceed in percentages of short necks, while Zadrima, Mirdita, Mati, and Has exceed in thin necks. The 3 northern tribes exceed in + shoulder slope, the southern tribes in *mm*. To a certain extent chest development runs inversely to stature; Mirdita and Mati are the chestiest, and

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Malsia e Jakovës the least so. Has stands out as moderately tall and very chesty. The vertebral borders of the scapulae, supposed to have much significance from the standpoint of general health and vigor, vary little. The lumbar curve is most pronounced in the tribes north of the Drin. None of the Gheg mountaineers had enough to eat to produce protuberant abdomens—in this criterion variation is non-existent. In general, buttocks are plumpest north of the Drin, where lumbar curve is greatest and hence pelvic tilt most pronounced; these differences between tribes in lumbar curve and buttock protrusion are more marked than any others. Calves are most developed in Dukagin and Mirdita, among the tallest and shortest tribesmen, respectively. The feet show little variability.

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To sum this data up, we find tall men north of the Drin, with stature decreasing rapidly as one moves southward; to the east, the gradient of change is much less marked than in the west. In fact, 3 stature areas may be designated: the northwest, the east, and the southwest. In these 3 areas, in general, the most robust are the big men of the northwest, while the easterners tend to a lankier form. Dukagin stands out above all the others for strength and athletic development, followed closely by the *bairaks* of Malsia e Madhe. Mirdita, followed by Mati and Zadrima, lies at the other extreme. These regional differences are as great as those between Norway and France, or England and Greece.

#### REGIONAL VARIATIONS IN THE CRANIAL VAULT

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The head length means vary nearly 7 millimeters, the breadth means 6 millimeters, and the height 4 millimeters, tribally. These differences are significant in 28 out of 45 cases for head length, 25 out of 45 for head breadth, and 21 out of 45 for head height. Heads are longest in the northwest, intermediate in the east, and shortest in the southwest. They are broadest in the northwest and more or less the same elsewhere; in height they exceed in Zadrima and Malsia e Madhe, and are lowest in Mati and Dibra, following in general a NW/SE axis.

These regional variations come out even more markedly in the cephalic index, in which

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A few features of the soft parts of the eyes show significant tribal variation. The western tribes, particularly Zadrima, Malsia e Madhe, and Dukagin, have large minorities with external eye folds, rare in the east and in Mati. Men from Dukagin tend to narrow their eyelids to slits, and this accounts for 14 out of 28 significant differences in palpebral opening. The same tendency in Has accounts for 9 of the rest. In the case of Dukagin, at least, part of this may be due to the fact that I measured them in the snow, in bright sunlight. Most of the tribes had 20 to 30 per cent of slight eye obliquity, but Has with only 8 per cent was significantly below the others. This obliquity was not up, Mongol-wise, but down, as is usual in narrow-faced Europeans.

The lips show a few local differences only: Dukagin has thicker integumental lips than the others, in 18 out of 23 significant cases; Has runs low and Malsia e Madhe high in membranous thickness, to a very minor degree in each case; Malsia e Madhe and Malsia e Jakovës have a little more lip eversion than the others. Only a few of these differences reach 3 times p.e., and only one attains 4. Except for Dukagin's thick upper lip, we can ignore the rest.

Turning to the ears, we find no differences of consequence. We have 6 observations, in all of which only 20 differences of 3 times p.e. or over are found, out of a total of 810 computed. Of these only 4 are over 4 p.e., and one reaches 5 p.e. We may say with confidence that the Gheg tribes are alike in the frequency of the component factors in ear form.

#### REGIONAL VARIATIONS IN PILOSITY

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In the observed form of the hair, the ratio of deep to low waves is virtually the same between all tribes, except for Has, which is recorded to have significantly more deep-waved individuals than all other tribes, except for Malsia e Madhe and Dukagin. Aside from Has the others are virtually the same. Owing to the prevalence of head shaving in some tribes, and the fact that my Has sample all lived near the city of Prizren, where modern haircuts are more in vogue than elsewhere, I have no confidence in this distinction. In hair texture, Zadrima shows a tendency in favor of fineness, and Luma of being medium, and both have some statistical validity. Again, I

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do not trust my power of observation enough to confirm these. In baldness, it is Has against the others, a distinction which can be explained on another basis. In the quantity of head hair (apart from bald areas) Dibra shows an excess over most others. Mustache hair quantity, eyebrow thickness, and eyebrow concurrency, show no regional variations, and these are prime racial criteria.

The lateral extension of the eyebrows, however, does vary. Here the split is essentially but not typically NW/SE again; the wide-browed tribal sample being particularly those of Dukagin, Malsia e Jakovës, Puka, and Zadrime, the narrow-browed those of Has, Luma, Mirdita, Mati, and Dibra. In this single criterion 41 significant differences occur. In 10 characters dealing with hair quantity, 124 significant differences exist; one-third of these are therefore found in the single character of lateral extension of the eyebrows. Aside from the variations in cranial vault and for Dukagin's chin, this is the biggest difference in observations to appear so far. In the development of the various segments of the facial hair, aside from the eyebrows, no notable differences are found, and in body hair there is a tendency for Dukagin and Malsia e Madhe to fall low on absents, and for the eastern tribes to be high on the hairiest categories. These tendencies are of a minor nature.

#### REGIONAL VARIATIONS IN PIGMENTATION

In skin color, only Has shows any consistent difference from the others; the skins of these men were recorded as medium-white rather than light in about 20 per cent of cases; this minority of one-fifth of other-than-fair skins is not only significant statistically, but also probably accurate technically. The Has men were also the more frequently vascular.

In the head hair color, the only differences of importance lie between the black and dark brown categories; all tribes are equally endowed with reds and blonds. Has is outstanding for its predominance of black, and Dukagin of dark brown. This may possibly be explained by age and by haircuts, but it may also be valid. Between them these 2 account for every single statistically significant difference in this character; in all, 20. In mustache color a few differences appear, as for example,

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\*128 Malsia e Madhe, Dukagin, and Malsia e Jakovës tend to be a little stronger in dark browns, Zadrime and Dibra in red browns, and Has and Puka in blond shades, than the others. Of a paltry 14 differences, all but 2 are below 4 times p.e., and can be discounted.

In eye color, a few tendencies appear; Dukagin and Malsia e Jakovës with 23 per cent dark brown, exceed about half the others significantly; Dibra has a concentration of light brown eyes, exceeding all but 2 of the others significantly. Mati and Zadrime have a tendency to exceed in zoned iris forms. These pigment differences may denote very minor genetic variations, but are really of little consequence.

#### REGIONAL DIFFERENCES BETWEEN TRIBES SUMMARIZED

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\*128 Having been through all of the differences between tribes in all characters measured and observed, and having tested all for statistical significance, we can now list the particular differences which indicate regional variations in the Mountain Gheg phenotype (fig. 12, a).<sup>1</sup>

1. The men north of the Drin are taller, more muscular and stronger than those south of it. They also have broader shoulders, longer arms, longer and thicker necks, more sloping shoulders, greater lumbar curves, and more protuberant buttocks. The 2 extremes in these characters are Dukagin and Mirdita. The tribes to the east, from Malsia e Jakovës to Dibra, show little variation in these features; the main drop between north and south falls to the west. These differences are as great as one might expect in a continent, and unusual in so small a territory.

2. Where bodies are largest, heads are largest too. Aside from this heads are shortest, broadest, and highest in the northwest, and the opposite in the east. Occipital flattening reaches its maximum in Malsia e Madhe and Zadrime, while lambdoid flattening and its companion, bathrocephaly, are highest in Dukagin. Tribal differences in head form are as great as those in body size and strength.

3. Faces are remarkably homogeneous in Malsia e Ghegnisë. Tribal variations are at a minimum. A few local peculiarities occur: broad foreheads in Malsia e Madhe; excessive face heights without eye obliquity in Has; Dukagin has a statistically noteworthy excess of bilateral chins, unusually few of which are receding; Zadrime has a tendency toward a straight, downturned nasal septum, and Dukagin to a thick integument in the region of the lips.

4. Has runs bald. The northwestern tribes have

<sup>1</sup>[See Cat. 116, p. 112  
-- Analyst]

\*128  
● 142  
141 k Has rurs bald. The ~~northwestern~~ tribes have more widely extended eyebrows than those in the southeast.

5. Has shows a minor tendency to medium skin color, and to black head hair; Dukagin tends to dark brown hair. The northern tribes have an excess of dark brown, and Dibra of light brown, eyes.

While the differences in body size and head shape are great, the similarity in face form, pilosity, and pigmentation is also great, and Ghegs look alike. The tribes that diverge from the total picture the most are those around the edges; the big broad-heads of Malsia e Madhe, the muscular cleft-chinned giants of Dukagin, the medium-sized broad-heads of Zadrima, and the minority of light brown-eyed Dibrans, who with their tribal brethren have somewhat narrower faces and noses.

One of the most revealing results of this intertribal comparison is the discovery that the tribes vary most among themselves not in the conventional criteria of race, but in what are usually considered to be minor or inconsequential anatomical features. If we revert for a moment to the statistics of validation, we find that values of 7 times p.e., or over, are most noticeable in the biacromial diameter, in which Dukagin exceeds all comers; span, stature, and sitting height follow in importance. In the biacromial, Dukagin exceeds all but its 2 neighboring tribes, Malsia e Madhe and Malsia e Jakovës, by 10 or more times p.e. Thirty-seven out of 69 intertribal differences in 7 body observations which reached 4 or more times p.e. were concerned with buttocks and lumbar curve; 4 out of 5 that exceeded 6 p.e. were the same. Again Dukagin is the odd tribe.

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\*128 In the measurements and indices of the head, 42 differences of 7 or more times p.e. are found, reaching an extreme of 14 p.e. in the comparison between the cephalic index of Malsia e Madhe and Luma. Malsia e Madhe exceeds all other tribes in head breadth by 7 to 11 times p.e.; that is the outstanding result of this inquiry. In the observations of the head, bathrocephaly leads all in tribal differentiation, followed by lambdoid flattening. These 2 features are concentrated in Dukagin, but neither go over 6 p.e. Zadrima is noteworthy not so much for its occipital flattening, in which it shares honors with Malsia e Madhe, as for its lack of lambdoid flattening and bathrocephaly.

**AGE AND CERTAIN SOFT PARTS OF  
THE FACE**

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A number of regressions have been made between age and some of the soft parts of the face, not all of which need be given in detail. On table 13, only those characters in which age changes play a part of interest to us here

$\frac{1}{\lambda}$  [see cat. 11b, p. 75 c -- Analyst]

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+128 have been plotted. Three different techniques  
of comparison are used, of which one, being  
new, is explained. The integument of the lips  
grows steadily although not greatly thicker  
with age until the 50's, after which its behavior  
is variable, which may be explained on the  
basis of tooth loss; when teeth are gone it is  
harder to observe this character than when they

TABLE 13: MEAN AGES, IN YEARS.

|                         | ABS.     | SEM        | SM                  | +         | ++          | +++      |
|-------------------------|----------|------------|---------------------|-----------|-------------|----------|
|                         | No. MEAN | No. MEAN   | No. MEAN            | No. MEAN  | No. MEAN    | No. MEAN |
| Lips, integ. thick..... |          |            | 22 (46.18)          | 908 38.69 | 133 43.54   |          |
| Lips, membr. thick..... | 91 51.29 | 19 (48.84) | 435 42.00           | 467 35.52 | 31 36.04    |          |
| Nasal tip thick.....    |          | 31 38.13   | 371 38.50           | 544 39.61 | 117 42.05   |          |
| Ear lobe, develop.....  |          |            | 434 36.66           | 568 40.14 | 61 49.10    |          |
| Nasal Wings:            | No.      | MEAN       | Nasal Profile:      | No.       | MEAN        |          |
| Compressed.....         | 383      | 38.75      | Concave.....        | 69        | 36.67 ± .96 |          |
| Medium.....             | 621      | 39.98      | Straight.....       | 414       | 37.83 ± .35 |          |
| Flaring.....            | 61       | 37.82      | Convex.....         | 569       | 40.89 ± .36 |          |
|                         |          |            | Concavo-convex..... | 11        | (38.82)     |          |

|                                 | No. | MEAN  |
|---------------------------------|-----|-------|
| Nasal Tip, Elevation-Depression |     |       |
| Elevation ++.....               | 36  | 36.45 |
| " +.....                        | 332 | 37.68 |
| " SM.....                       | 230 | 38.39 |
| Depression sm.....              | 173 | 40.32 |
| " +.....                        | 256 | 40.46 |
| " ++.....                       | 36  | 42.97 |

MEAN VALUES OF FOUR OBSERVATIONS\*

Nasal Profile, by Percentages

| AGE        | LIPS,<br>INTEG. | LIPS,<br>MEMBR. | NASAL<br>TIP<br>THICK. | EAR<br>LOBE<br>DEV. | CONCAVE<br># % | STRAIGHT<br># % | CONVEX<br># % | CONCAVO-<br>CONVEX<br># % |
|------------|-----------------|-----------------|------------------------|---------------------|----------------|-----------------|---------------|---------------------------|
| 18-20..... | 50.0            | 43.8            | 33.3                   | 35.4                | 2 16.7         | 6 50.0          | 4 33.3        |                           |
| 21-24..... | 50.2            | 42.2            | 44.1                   | 37.4                | 9 9.1          | 51 51.5         | 38 38.4       | 1 9.1                     |
| 25-29..... | 51.4            | 40.7            | 41.1                   | 37.9                | 13 8.4         | 59 38.1         | 81 52.3       | 2 18.2                    |
| 30-34..... | 52.3            | 40.1            | 40.5                   | 37.4                | 9 5.4          | 68 41.0         | 86 51.8       | 3 27.3                    |
| 35-39..... | 51.8            | 36.0            | 41.8                   | 40.1                | 10 6.2         | 66 40.7         | 85 52.5       | 1 9.1                     |
| 40-44..... | 54.8            | 33.0            | 44.0                   | 42.6                | 6 4.6          | 50 38.8         | 72 55.8       | 1 9.1                     |
| 45-49..... | 54.4            | 32.1            | 46.2                   | 43.2                | 9 8.7          | 36 35.0         | 57 55.3       | 1 9.1                     |
| 50-54..... | 55.1            | 31.2            | 44.9                   | 43.5                | 5 5.7          | 39 44.3         | 44 50.0       |                           |
| 55-59..... | 51.0            | 26.4            | 45.7                   | 45.9                | 3 5.8          | 13 25.0         | 36 69.2       |                           |
| 60-64..... | 54.5            | 24.3            | 44.5                   | 50.0                | 3 5.4          | 15 26.8         | 37 66.1       | 1 9.1                     |
| 65 +.....  | 50.6            | 18.0            | 42.4                   | 49.7                |                | 11 26.8         | 29 70.7       | 1 9.1                     |

\* This table represents an attempt to render subjective observations mutually comparable. The means listed above have been computed as follows: Absent=0. sm=12.5. sm=25. + =50. ++ =75. +++ =87.5. Multiply the absents x 0, the sm's x 12.5, the sm's x 50, etc., and divide the sum by N. Result is the mean as given above. This method, although mathematically dubious, is nevertheless a convenience, for it is easier to compare single figures than galaxies of percentages; and in this way progressive trends may be discovered.

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are present. Conversely, the lip membrane, as far as could be observed, thins with age. The relationships between this feature and various dental characters, such as occlusion, will be discussed in the next chapter. For the present it is enough to state that part at least of the George Washington look of the Mountain Ghag lips is due to age. The ear lobe also grows steadily, slowly until the early 50's, then faster.

The nasal wings change little; the tip, however, thickens gradually to the late 40's, and then thins out slightly; these changes are very slight and significant only in their directional constancy. The position of the tip, however, changes steadily and significantly with age; the high frequency of depressed tips in our series is partly a reflection of it.

Aside from the shape of the back of the head, the most distinctive character of Dinaries is the nasal profile, the high frequency of hawk beaks being distinctive. In our percentile series a frequency of 50 per cent or over for convex

142 profiles is reached only by the late 20's; it  
\*128 remains fairly constant until the late 50's, and  
then increases notably, probably as the soft  
parts of the nose thin out and the tip pulls  
downward. The age mean differences between  
concave and convex and straight and convex  
are significant; so are the percentile differences  
between the 20-24-year-old group and the 3  
oldest categories. If one were to measure a  
series of 20-year-old Ghegs, one would prob-  
ably find straight noses in the majority, with  
concave appearing perhaps as often as convex.  
The convex nose, so distinctively Dinaric, is  
in part a feature of age. So is the long face,  
so are the thin lips. The "typical" Dinaric is  
a man past middle age.

#### AGE AND PILOSITY

Table 14<sup>1</sup> and figure 5<sup>2</sup> show the changes in  
pilosity that occur in our series with advancing  
age. Some 13 per cent are bald to some degree.  
As table 14<sup>3</sup> shows, this rises steadily with  
age. None of the youngest age group was

<sup>1</sup>/<sub>A</sub> [see cat. 116, p. 76c -- Analyst]

<sup>2</sup>/<sub>A</sub> [see cat. 116, p. 77a -- Analyst]

<sup>3</sup>/<sub>A</sub> [see cat. 116, p. 76c -- Analyst]

TABLE 14: AGE AND HAIR QUANTITY.

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| Means of Criteria* |     |               |       |     |               |        |       |                |       |
|--------------------|-----|---------------|-------|-----|---------------|--------|-------|----------------|-------|
| AGE                | No. | BALD-<br>NESS | HEAD  | No. | MUS-<br>TACHE | CHEEKS | JAW   | ARMS &<br>LEGS | CHEST |
| 18-20.....         | 12  | 0             | 54.17 | 12  | 41.67         | 18.75  | 22.50 | 27.50          | 8.33  |
| 21-24.....         | 99  | 1.77          | 50.51 | 99  | 39.90         | 28.66  | 30.93 | 34.67          | 17.05 |
| 25-29.....         | 153 | 3.03          | 49.68 | 155 | 42.55         | 37.66  | 40.41 | 40.73          | 27.10 |
| 30-34.....         | 162 | 4.27          | 50.62 | 166 | 48.27         | 45.63  | 47.97 | 44.58          | 34.86 |
| 35-39.....         | 159 | 5.82          | 48.59 | 162 | 56.32         | 50.39  | 53.24 | 47.53          | 36.65 |
| 40-44.....         | 129 | 9.42          | 48.05 | 129 | 57.75         | 53.49  | 54.55 | 49.71          | 41.96 |
| 45-49.....         | 99  | 12.55         | 47.19 | 103 | 58.50         | 52.31  | 55.34 | 49.51          | 43.08 |
| 50-54.....         | 83  | 13.56         | 46.48 | 88  | 57.91         | 52.41  | 56.25 | 51.99          | 45.00 |
| 55-59.....         | 51  | 17.15         | 41.67 | 52  | 58.65         | 55.39  | 56.73 | 48.56          | 40.62 |
| 60-64.....         | 56  | 17.62         | 40.85 | 56  | 58.48         | 55.80  | 57.14 | 49.53          | 48.21 |
| 65 + .....         | 41  | 18.62         | 42.07 | 41  | 60.06         | 57.32  | 58.23 | 46.34          | 61.89 |

| Age Means      |      |       |     |       |     |       |     |       |     |       |
|----------------|------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                | ABS. |       | SEM |       | SEM |       | +   |       | ++  |       |
|                | No.  | MEAN  | No. | MEAN  | No. | MEAN  | No. | MEAN  | No. | MEAN  |
| Baldness ..... | 803  | 36.79 | 22  | 47.68 | 128 | 48.21 | 71  | 49.05 | 19  | 50.18 |
| Head Hair      |      |       |     |       |     |       |     |       |     |       |
| Quant.....     |      |       |     |       | 143 | 48.70 | 842 | 37.88 | 58  | 37.43 |
| Mustache ...   |      |       | 16  | 23.87 | 81  | 26.57 | 727 | 39.10 | 239 | 45.59 |
| Cheek .....    | 50   | 28.10 | 52  | 32.38 | 189 | 39.12 | 540 | 39.95 | 232 | 45.71 |
| Jaw .....      | 21   | 24.68 | 28  | 27.00 | 183 | 32.87 | 593 | 40.05 | 238 | 45.80 |
| Arms and       |      |       |     |       |     |       |     |       |     |       |
| Legs .....     |      |       | 16  | 32.00 | 280 | 34.27 | 636 | 40.53 | 131 | 45.93 |
| Chest .....    | 249  | 32.74 | 14  | 41.29 | 243 | 38.44 | 377 | 41.48 | 169 | 46.20 |

\*See footnote to table 13.

(Note: Chest +++: 11 49.27)

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bald; 22 per cent of the oldest were. The thickness of the head hair, where any remained, became gradually reduced from the early 30's onward, but this change was a minor one.

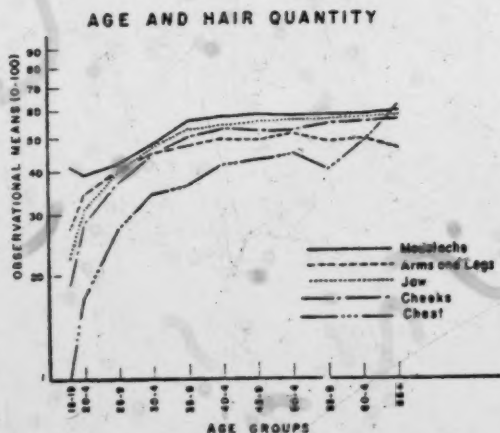


FIG. 5. Age and hair.

Of the face hair, the mustache grew out first, as expected, and changed relatively little; here age is a minor factor. The hairiness of the cheeks and jaw increased to the ratio of 3 to 1 and 2 to 1. Of the body hair, that of

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\*128 the arms and legs increases in the same fashion as cheeks and jaws until the mid-30's, and then remains constant. The chest hair increases most of all kinds of hair observed.

With such a population, and this applies for most if not all "white" peoples, it is useless to compare 20-year-olds, such as are commonly recorded in army statistics, with a mature sample like this. But samples with mean ages between 35 and 60 years old would be comparable. This means that our tribal samples, despite their significant age variations, can still be compared with each other in the 7 criteria of hairiness used in this study.

#### AGE AND GRAYING

Table 15<sup>1</sup> and figure 6<sup>2</sup> show other age changes in the hair—the progressive loss of pigment with age, known as graying. The head hair begins to gray at an earlier age than that of the mustache, which overtakes head hair in the late 50's. Whereas hair quantity reaches its adult stage in the 30's and then levels off, graying progresses in a different fashion. From the early 30's until the late 40's it follows one rate of progression which shows as a parabola on a straight graph and a straight

$\frac{1}{n}$  [see cat. 116, p. 77c-78a--Analyst]

$\frac{2}{n}$  [see cat. 116, p. 78b--Analyst]

8: Coon

E-5 (1929-30; 46-48) 1950

Egl Albania Egl

Highland Ghegs

TABLE 15: AGE AND GRAYING.

| Age        | Degree of Grayness by Age Groups |       |          |       | Per cent Remaining |          |
|------------|----------------------------------|-------|----------|-------|--------------------|----------|
|            | HEAD                             | MEAN* | MUSTACHE | MEAN  | Totally Ungrayed   |          |
| No.        |                                  |       | No.      |       | HEAD               | MUSTACHE |
| 18-20..... | 12                               | 0     | 12       | 0     | 100.00             | 100.00   |
| 21-24..... | 99                               | .25   | 99       | 0     | 98.99              | 100.00   |
| 25-29..... | 155                              | 3.67  | 155      | .48   | 89.03              | 98.71    |
| 30-34..... | 166                              | 2.95  | 166      | .30   | 90.36              | 99.40    |
| 35-39..... | 161                              | 7.38  | 161      | 2.17  | 75.78              | 91.93    |
| 40-44..... | 130                              | 16.44 | 129      | 9.50  | 59.23              | 72.87    |
| 45-49..... | 103                              | 29.00 | 103      | 22.32 | 36.89              | 43.69    |
| 50-54..... | 88                               | 35.23 | 88       | 31.68 | 25.00              | 37.50    |
| 55-59..... | 52                               | 41.82 | 52       | 37.02 | 21.15              | 28.85    |
| 60-64..... | 56                               | 55.12 | 65       | 57.14 | 8.93               | 3.57     |
| 65 +.....  | 41                               | 69.82 | 41       | 73.50 | 2.44               | 0        |

Mean Ages of Degrees of Graying

|          | #   | Age   | #   | Age      |
|----------|-----|-------|-----|----------|
|          |     | HEAD  |     | MUSTACHE |
| Abs .... | 674 | 33.49 | 766 | 33.98    |
| sm ....  | 26  | 42.67 | 4   | (47.00)  |
| sm ....  | 119 | 44.22 | 83  | 46.52    |
| + ....   | 140 | 47.89 | 127 | 53.38    |
| ++ ..    | 77  | 56.02 | 64  | 59.30    |
| +++      | 17  | 60.82 | 11  | (65.18)  |
| White    | 9   | 63.67 | 7   | (64.86)  |

Degree of Grayness

|                   | #   | MEAN*    | #   | MEAN    | Age          |
|-------------------|-----|----------|-----|---------|--------------|
|                   |     | ALL AGES |     |         | COLOR GROUPS |
| Black .....       | 420 | 24.84    | 420 | 43.39   | .40          |
| Dark brown.....   | 473 | 8.53     | 473 | 35.45   | .29          |
| Reddish-brown ... | 16  | 13.42    | 16  | (40.12) |              |
| Light brown.....  | 89  | 4.64     | 89  | 35.42   |              |
| Blond .....       | 24  | 6.25     | 24  | (37.42) |              |

\*By method explained in footnote to table 13.

TABLE 15 (continued)  
Hair Color and Age Grades

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| AGE        | TOTAL | BLACK |       | DR. BA. |       | RED BA. |      | LT. BA. |       | BLOND |      | LT. BA. & BLOND |   | UNKNOWN |   |
|------------|-------|-------|-------|---------|-------|---------|------|---------|-------|-------|------|-----------------|---|---------|---|
|            |       | #     | %     | #       | %     | #       | %    | #       | %     | #     | %    | #               | % | #       | % |
| 18-20..... | 12    | 4     | 33.33 | 6       | 50.00 | 0       |      | 2       | 16.67 | 0     |      | 16.67           | 0 |         |   |
| 21-24..... | 99    | 19    | 19.19 | 64      | 64.64 | 1       | 1.01 | 9       | 9.09  | 6     | 6.06 | 15.15           | 0 |         |   |
| 25-29..... | 154   | 41    | 26.62 | 88      | 57.14 | 3       | 1.93 | 18      | 11.69 | 4     | 2.60 | 14.29           | 0 |         |   |
| 30-34..... | 166   | 48    | 28.91 | 96      | 57.83 | 0       |      | 19      | 11.44 | 3     | 1.81 | 13.25           | 0 |         |   |
| 35-39..... | 161   | 57    | 35.40 | 85      | 52.80 | 4       | 2.49 | 13      | 8.10  | 2     | 1.23 | 9.33            | 0 |         |   |
| 40-44..... | 129   | 56    | 43.41 | 47      | 36.43 | 3       | 2.33 | 16      | 12.40 | 5     | 3.88 | 16.28           | 2 | 1.55    |   |
| 45-49..... | 103   | 56    | 54.37 | 34      | 33.01 | 2       | 1.94 | 5       | 4.85  | 1     | .97  | 5.82            | 4 | 3.88    |   |
| 50-54..... | 88    | 53    | 60.23 | 24      | 27.27 | 2       | 2.27 | 3       | 3.41  | 1     | 1.14 | 4.55            | 5 | 5.68    |   |
| 55-59..... | 50    | 35    | 70.00 | 9       | 18.00 | 0       |      | 1       | 2.00  | 0     |      | 2.00            | 5 | 10.00   |   |
| 60-64..... | 54    | 33    | 61.11 | 11      | 20.37 | 0       |      | 1       | 1.85  | 1     | 1.85 | 3.70            | 8 | 14.81   |   |
| 65 + ..... | 36    | 18    | 50.00 | 9       | 25.00 | 1       | 2.78 | 3       | 8.33  | 1     | 2.78 | 11.11           | 4 | 10.81   |   |

128 line on a semi-log grid; from the late 40's on-  
142 ward the rate changes, and this again takes the  
form of a single logarithmic function. It  
would appear from this that at least 2 phys-  
iological factors are responsible for this phe-

DEGREES OF GRAYING AND OF  
BALDNESS BY AGE GROUPS

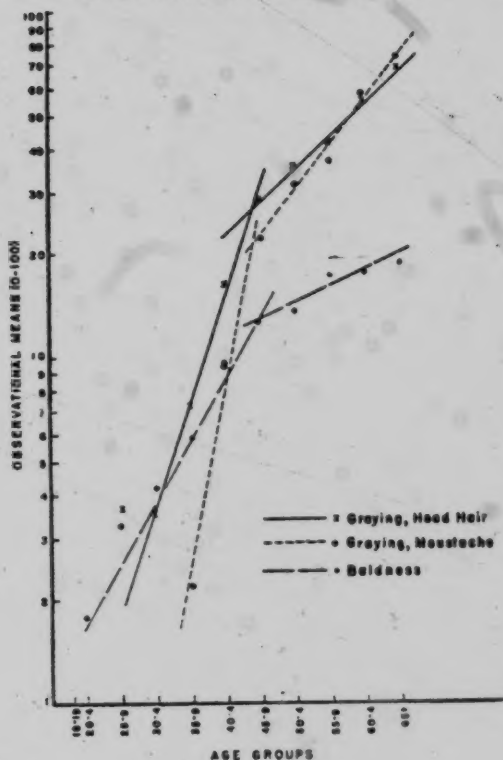


FIG. 6. Age and graying.

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\*128 nomenon, and one is set in motion later than the other. When baldness is taken over from the preceding section and plotted on the same chart, it breaks at exactly the same age as graying at the 2 anatomical loci studied. This is the same spot on the age chart at which strength, as shown by the dynamometer squeeze, falls off sharply. Old age, among the Mountain Ghegs, begins to raise its hoary head in the mid-40's.

### AGE AND COLOR CHANGES

In all but 28 (2.6%) cases, it was possible to find enough pigmented hairs with the gray to make a notation for hair color. As table 15 also shows, black hair was more often tied to the higher degrees of graying than any other kind. Black and reddish-brown hair showed much more grayness than the 3 other color categories, all lighter, which tend to form a group. Is this because the black-haired men gray younger than the brown and light-haired men, or because some of them get darker haired as they grow older? While we can never answer this with complete assurance until we have studied chronological changes in the same men, the present evidence favors the second conclusion. Dark brown-haired men are 8 years younger, on the mean, than black-haired men, and this difference reached over 16 times its probable error. Table 15 shows how the percentage of black-haired men increases in each age grade from the early 20's through the late 50's; at that time something happens to reduce the ratio. On the other hand, dark brown-haired men are 3 times as numerous as black-haired in youth; they grow

Free, cat 116, p. 77c-78a  
[Analyst]

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\*128

scarcer with age, until at about age 40 the 2 color brackets are equal, and at age 60 the tables have turned; the black-haired men outnumber the dark brown-haired by over 3 to one. Light brown- and blond-haired men, in general, do not suffer so drastic a reduction. At age 60 both they and the dark brown-haired contingent become more numerous. By age 60, most of the men are already quite gray; it looks as if in some cases the darker hair colors began to bleach out at this time. If we were to describe our series on the basis of a sample of recruits at age 20, clearly then one would have to say that the Mountain Ghegs were predominantly brown haired, with blonds and black-haired individuals in equal-sized minor-

142 ities. At age 45, however, black-haired men  
\*128 would be in the majority. It is probably just  
as true of most other European populations that  
hair color depends on the age of the sample.  
Although eye color shows a number of differences  
in relation to age, none of these are comparable  
in magnitude to those which we have just discussed,  
and they do not affect the position of the sample;  
a description for any age over 20 will give a fair picture of this character  
for the adult male population as a whole.

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142 *AGE AND INTERTRIBAL DIFFERENCES*

So far in this chapter most of the studies of age variations have served to show the position of the series as a whole, and to render it comparable with other series. Some of the exercises have had a bearing on intertribal differences. For example, it is clear that the high stature of the people north of the Drin has nothing to do with age, in comparison with their neighbors to the south, and that the same is true of local variations in the dimensions of

142 the head. In several other characters which  
141 were seen to be critical points of intertribal  
\*128 difference, age cannot be as easily eliminated.  
We have seen that baldness, hair color, and  
total face height vary considerably with age,  
and must explore the effect of these changes  
on our tribal samples.

Two tribes above all others set themselves  
apart: Dukagjin and Has. Between them they  
monopolize the peculiarities which suggest  
that the Highland Ghegs are not a homoge-  
neous group of people. These peculiarities,  
as tracked down in chapter 10, "The Moun-  
tain Gheg Phenotype," are the biacromial  
diameter, the total face height, the form  
of the chin, the protrusion of the buttocks, the

1[sec cat. 116, pp. 586-706 -- Analyt]

141 presence or absence of baldness, the lateral

142 extension of the eyebrows, and the color of

\*128 the head hair. Table 16 shows constants for these characters in Dukagin and Has. In each tribe I have segregated the 30-39-year-olds and made separate computations. By equalizing the age distribution we may hope to find out whether the peculiarities are linked to age, or not.

They are not. The 30-39-year-olds of Dukagin are just as much broader shouldered than their age mates of Has, as the total sample. The Has men have longer faces than the Dukagin men, at any age. The Dukagin men have more bilateral chins, fewer lean buttocks, less baldness, more bilateral extension of the eyebrows, and more brown hair, than the Has men, age for age.

These differences are real ones. They are just as great in one representative age group as in the total sample. Has and Dukagin are local populations which differ in these respects from the total series and from each other.

$\frac{1}{n}$  [see cat. 116, p. 71c - Am. ...]

8: Coon

E-5 (1929-30; 46-48) 1950

EG1 Albania EG1  
Highland Ghegs

TABLE 16: AGE CONTROLS IN CRITICAL CHARACTERS.

| No.                 | HAS        |        | DURAGIN |        |
|---------------------|------------|--------|---------|--------|
|                     | (28)       | (114)  | (43)    | (106)  |
| Age                 | 30-39      | TOTAL  | 30-39   | TOTAL  |
| Biacromial          | 38.39 cm.  | 38.30  | 40.49   | 40.37  |
| Total face ht.      | 125.86 mm. | 126.30 | 123.44  | 124.15 |
| Chins, bilateral    | 17.86%     | 19.30% | 35.51%  | 38.68% |
| Buttocks, sm        | 32.14%     | 42.11% | 2.22%   | 5.66%  |
| Baldness, present   | 28.57%     | 46.00% | 15.55%  | 20.19% |
| Eyebrows, lat. ext. |            |        |         |        |
| abs. & sm.          | 53.57%     | 57.90% | 11.11%  | 8.49%  |
| Hair color          |            |        |         |        |
| Black               | 60.71%     | 61.46% | 17.78%  | 20.75% |
| Brown               | 32.14%     | 22.92% | 68.89%  | 66.04% |
| Other               | 7.14%      | 15.62% | 13.33%  | 13.21% |

BITE AND AGE

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Table 17<sup>1</sup> shows the relation between bite type and age. The men whose bite was known to be edge-to-edge were nearly 5 years older than their slightly-over kinsmen, and this difference is significant by 9.63 times its own probable error. Disregarding the youngest age bracket as too small a sample, we see that at age 20-24 the percentage of overbites outnumbered that of edge-to-edge occlusions nearly 3 to 1, that the 2 become equal at about age 35, after which the earlier proportions are reversed in the early 50's. The changes in ratio which begin at that age and keep on to senility are a function of the rise in proportion of edentulous men, whose earlier type of bite could not be determined. They are recorded as "un-

1 [see cat. 116, p. 81c -- Anal. p. 1]

8:Coon E-5 (1929-30;46-48)195 EG1 Albania EG1  
Highland Ghegs

●142 known." Incisors that have been worn enough  
\*128 to breach the pulp cavity are more likely to  
drop out than those that have not, and hence it  
is reasonable to suppose that most of the "un-  
knowns" of the later age grades had had edge-  
to-edge bites, but we cannot be sure. It is also  
reasonable, but uncertain, to suppose that men  
who have retained overbites until age 52 will  
do so for the rest of their lives. By adding the  
"unknowns" to the edge-to-edge category on  
table 17 we obtain an expression of this hypo-  
thetical progression.

7 [see cat. 116, p. 81c - Analysis]

8: Coon

E-5 (1929-30; 46-48) 1950

EG1 Albania EGI  
Highland Ghegs

TABLE 17: BITE AND AGE.

MEAN AGES IN YEARS

|                     | No. | MEAN            |
|---------------------|-----|-----------------|
| Under .....         | 14  | 35.55 years     |
| Edge-to-edge .....  | 521 | 41.53 $\pm$ .31 |
| Slightly over ..... | 480 | 36.78 $\pm$ .35 |
| Marked-over .....   | 10  | 38.00           |

PERCENTAGES OF BITE TYPES IN AGE GROUPS

| Age        | Under   | EDGE-EDGE | SLIGHTLY-<br>OVER | MARKED-<br>OVER | UNKNOWN  | No.  |
|------------|---------|-----------|-------------------|-----------------|----------|------|
| 18-19..... | 0       | 6 50.00   | 5 41.67           | 1 8.33          | 0        | 12   |
| 20-24..... | 3 3.03  | 26 26.26  | 69 68.69          | 1 1.01          | 0        | 99   |
| 25-29..... | 0       | 63 40.65  | 91 58.71          | 1 .65           | 0        | 155  |
| 30-34..... | 5 3.01  | 74 44.58  | 85 51.20          | 2 1.20          | 0        | 166  |
| 35-39..... | 2 1.23  | 84 51.53  | 75 46.01          | 1 .61           | 1 .61    | 163  |
| 40-44..... | 1 .78   | 66 51.16  | 57 44.19          | 1 .78           | 4 3.10   | 129  |
| 45-49..... | 1 .97   | 65 63.11  | 35 33.98          | 0               | 2 1.94   | 101  |
| 50-54..... | 1 1.14  | 59 67.05  | 23 26.14          | 2 2.27          | 3 3.41   | 88   |
| 55-59..... | 1 1.96  | 29 56.86  | 14 27.45          | 0               | 7 13.73  | 51   |
| 60-64..... | 0       | 32 57.14  | 14 25.00          | 1 1.79          | 9 16.07  | 56   |
| 65 + ..... | 0       | 17 41.46  | 12 29.27          | 0               | 12 29.27 | 41   |
| ? .....    | 0       | 3 75.00   | 0                 | 0               | 1 25.00  | 4    |
| Total      | 14 1.31 | 524 49.11 | 480 44.99         | 10 .94          | 39 3.66  | 1067 |

142  
\*128

Marked overbites are so infrequent that they are statistically almost negligible. They are scattered throughout the age grades in such a way that one cannot say that they are increasing or decreasing, and this accords with what we know of Mountain Gheg eating habits. Underbites are no more or less frequent than expected.

Any notion that types of occlusion are hereditary must be destroyed by this evidence. No genetic infiltration strong enough to affect half the population can have penetrated Gheg-  
nia during the lifetime of our oldest subjects. Occlusion is functional, but is all of the change shown in this series a normal age shift from over to edge-to-edge, or can some of it be due to changes in foodstuffs and eating habits, such as the introduction of sugar, and possibly the

8:Coon E-5 (1929-30;46-48)1950 EG1 Albania EG1  
Highland Ghegs

142 transportation of soft bread from town baker-  
\*128 ies to the villages? I leave the answer to this  
question to the experts in the dental field.

#### BITE AND GEOGRAPHY

162 Table 18 gives the tribal distribution of bite  
142 types. In this feature the tribes vary greatly,  
\*128 and some of the differences are highly signifi-  
cant, as for example that between Mirdita and  
Luma in edge-to-edge, which runs to 6.48  
times p.e. Mirdita is by far strongest in edge-  
to-edge, which seems in general to go with the

7 [See Vol. 116, p. 82a -- Analyst]

TABLE 18: BITE.  
TRIBAL DISTRIBUTION OF TYPES

162  
• 142  
7128

|                    | TOTAL | UNDER |      | EDGE-TO-EDGE |       | SLIGHTLY<br>OVER |       | MARKED-OVER |      | UNKNOWN |      |
|--------------------|-------|-------|------|--------------|-------|------------------|-------|-------------|------|---------|------|
|                    |       | #     | %    | #            | %     | #                | %     | #           | %    | #       | %    |
| Total Series ..... | 1067  | 14    |      | 324          |       | 480              |       | 10          |      | 39      |      |
| MeM .....          | 105   | 2     | 1.90 | 56           | 53.33 | 43               | 40.95 | 0           |      | 4       | 3.81 |
| Duk .....          | 106   | 0     |      | 60           | 56.60 | 46               | 43.40 | 0           |      | 0       |      |
| Mej .....          | 104   | 2     | 1.92 | 35           | 33.65 | 67               | 64.42 | 0           |      | 0       |      |
| Has .....          | 114   | 3     | 2.63 | 73           | 64.04 | 30               | 26.32 | 1           | .86  | 7       | 6.14 |
| Lum .....          | 109   | 1     | .92  | 31           | 28.44 | 68               | 62.39 | 4           | 3.67 | 5       | 4.59 |
| Puk .....          | 102   | 4     | 3.92 | 37           | 36.27 | 59               | 57.84 | 1           | .98  | 1       | .98  |
| Mir .....          | 101   | 2     | 1.98 | 70           | 69.31 | 19               | 18.81 | 2           | 1.98 | 8       | 7.92 |
| Zad .....          | 105   | 0     |      | 49           | 46.67 | 51               | 48.57 | 0           |      | 5       | 4.76 |
| Mat .....          | 104   | 0     |      | 51           | 49.04 | 51               | 49.04 | 0           |      | 2       | 1.92 |
| Dib .....          | 108   | 0     |      | 58           | 53.70 | 42               | 38.89 | 2           | 1.85 | 6       | 5.56 |

## BITE AND RELIGION

|               | CATHOLIC |      | MOSLEM |      | BOTH<br>OTHERS | PROPORTIONS OF<br>E-E-S-O. |        |
|---------------|----------|------|--------|------|----------------|----------------------------|--------|
|               | E-E      | S-O. | E-E    | S-O. |                | CATH.                      | MOSLEM |
| MeM .....     | 27       | 23   | 29     | 20   | 6              | 54                         | 59     |
| Duk .....     | 60       | 46   | 0      | 0    | 0              | 56                         | —      |
| Mej .....     | 9        | 2    | 26     | 60   | 1              | 56                         | 70     |
| Has .....     | 8        | 3    | 65     | 27   | 11             | 67                         | 71     |
| Lum .....     | 0        | 0    | 31     | 68   | 10             | —                          | 31     |
| Puk .....     | 11       | 24   | 26     | 25   | 6              | 44                         | 52     |
| Mir .....     | 70       | 19   | 0      | 0    | 12             | 79                         | —      |
| Zad .....     | 45       | 42   | 4      | 9    | 5              | 52                         | 31     |
| Mat .....     | 4        | 6    | 47     | 45   | 2              | 40                         | 51     |
| Dib .....     | 0        | 0    | 58     | 42   | 8              | —                          | 58     |
| Intertr. .... | 2        | 2    | 7      | 7    | 2              | 50                         | 50     |
| Total .....   | 236      | 172  | 293    | 301  | 63             | 1067                       | 49     |

162

142

1128

most remote geographical fastnesses, except for Has. With the same exception, the north-eastern tribes are highest in slight overbites. One might at first suppose that the Catholics were the edge-to-edge people, but in 5 out of the 6 tribes where both faiths are followed, the Moslems have a higher edge-to-edge ratio. In the sixth, Malsia e Jakovës, the Catholics

8:Coon E-5 (1929-30;46-48)1946 EG1 Albania EG1  
Highland Ghegs

142 form a special regional population, that of  
●142 Nikaj and Merturi, just over the divide from  
x128 Shoshi and Shala. Bite cannot be shown to  
have anything to do with ritual food taboos  
at all. Nor should one expect this, for the chief  
difference in diet lies in the species of animal  
eaten, while the food that takes the most chew-  
ing, bread, is the same for both in any given  
region.

162

• 142

\*128

[256]

What this distribution seems to show more than anything else is that slight overbites tend to favor the big eastern market towns and the center of the Roman road. Puka lies at the middle of this road, and Puka has a commercial bakery. Luma has several at Kukës, and others do business at Prizren and Peshkopia. These commercial bakeries turn out a softer product

8:Coon E-5 (1929-30;46-48)1950 EG1 Albania EG1  
Highland Ghegs

162 than home ovens, at least in my experience.

● 142 Why then, has Has one of the highest ratios  
\* 128 of edge-to-edge bite, when the very men measured at Has were drawn from villages of hereditary commercial bakers? The answer to this lies in the age distribution. Twenty-eight men of the Has sample fell into age group 30-39. Of these, 13 had edge-to-edge bites, 14 slightly-over, and one marked-over. The

142 edge-to-edge ratio for this age grade is 48. In  
167 Luma, which stands at the other end of the  
7128 scale in bite form, 25 men in the same age  
grade had 11 edge-to-edge, 13 slightly-over,  
and one under. This gives a ratio of 46. If one  
counts marked-over with slightly-over and  
under with edge-to-edge, the ratios are re-  
versed. The bakers were simply older men.

Much more research needs to be done if we  
are to explain the incidences of kinds of occlu-  
sion among Mountain Ghegs. All this report  
can possibly accomplish is to serve as a recon-  
naissance for specialists.

### BITE AND FACE HEIGHTS

000 We have seen in chapter 11, "Age," page  
74, that unlike most other parts of the body,  
the face keeps on growing throughout life. In  
old age, however, this growth is often offset  
by the deterioration and loss of the teeth. As  
the teeth wear down and drop out, the dental  
borders of both maxillae and mandible shrink  
through absorption, and the chin and nose  
approach each other. These compensatory  
processes, face growth and dental attrition, do  
not necessarily move apace. Among some in-  
dividuals the teeth remain sound until late in  
life; in others they deteriorate early. These  
differences thus affect not only means but  
also dispersions and measures of variability, in-  
cluding the probable error. In a series which  
includes a large percentage of men who have  
reached middle age, or in one in which poor  
teeth are common at any age, some method  
must be found to eliminate this source of error.

125 Being aware of this problem before leaving for  
Albania, I included in the measurement blank  
the observations *face shortening due to wear*,  
and *face shortening due to loss and absorption*.  
It was easier to observe dental condition with  
this problem in mind than to make general

1[See cat. 116, p. 746 -- Analyst]

125 observations and then try to estimate the effect on face height later.

4128  
142 Table 19 tells us the rest of the story. Shortening from wear went largely with the edge-to-edge type of bite, while loss and absorption were more characteristic of men who had had overbites, and whose teeth were less worn, in the instances where enough teeth were left to tell. In only 5 instances was it possible to attribute the shortening to both. Shortening due to wear set in 10 years earlier than that due to loss and absorption. The total face height means of the men who had suffered shortening from wear were significantly smaller than the total mean, in the + and ++ categories; the same was true of those subject to loss and absorption, in the ++ category only. In the case of the upper face height means, it was the men who had undergone loss and absorption who suffered the greater reduction, significant in both + and ++ categories. On the basis of these figures it seemed wiser to eliminate from the seriations of total face height, upper face height, and the dependent indices, the 164 men recorded as + or ++ in either loss category. With this correction the seriations given on table 4 were computed. The rejects came mostly from the older age grades, and no more than 22 per cent were removed from any one tribe.

One other question remains to be explored: whether, when wear, loss, and absorption are eliminated, the type of occlusion affects face heights. One might suppose that if 2 men had identical facial skeletons and identical teeth, and one man had an overbite while the other's teeth met edge-to-edge, the latter would have the longer face. As the last part of table 19 shows, this is not the case. Occlusion has no qualifying effect whatever on face lengths, except through wear, loss, and absorption.

1 [see cat. 116, pp. 83c-84. Analysis]

2 [see cat. 116, pp. 54f-54g. Analysis]

8: Coon

E-5 (1929-30; 46-48) 1940

EG1 Albania EG1  
Highland Ghegs

TABLE 19: BITE, AGE, AND FACE SHORTENING.

|                     |  | FACE SHORTENING, FREQUENCIES |    |     |            |         |     | Grand |       |
|---------------------|--|------------------------------|----|-----|------------|---------|-----|-------|-------|
| Shortening, if any, |  | abs.                         | mm | mm  | +          | ++      | +++ | Total | Total |
| due to:             |  |                              |    |     |            |         |     |       |       |
| Wear .....          |  | 808                          | 4  | 162 | 66         | 21      | 1   | (254) | 1062  |
| Low .....           |  | 1006                         | 1  | 4   | 25         | 23      | 3   | (56)  | 1062  |
| Both .....          |  |                              |    |     | 1          | 3       |     | (5)   | 5     |
|                     |  |                              |    |     | Low + Wear |         |     |       |       |
| (Neither) ..        |  | (752)                        |    |     |            |         |     | (752) |       |
| Total .....         |  | 923*                         |    |     |            | 164     |     |       | 1067  |
|                     |  | kept                         |    |     |            | removed |     |       |       |

(\*Of 923 left, 921 have face height.)

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TABLE 19 (continued)

## AGE

|                       | No. | MEAN (YRS.)  | I.P.R.<br>FROM<br>ABS.-ABS. |
|-----------------------|-----|--------------|-----------------------------|
| No wear, no loss..... | 750 | 36.26 ± .28  |                             |
| Abs.-Abs.             |     |              |                             |
| Wear: sm & sm.....    | 161 | 41.24 ± .60  | 10.58                       |
| +                     | 67  | 48.08 ± 1.29 | 8.95                        |
| ++, +++.....          | 25  | 53.50 ± 1.12 | 15.00                       |
| Loss: sm, sm, +.....  | 31  | 53.29 ± 1.16 | 12.00                       |
| ++, +++.....          | 29  | 51.28 ± 1.00 | 18.33                       |

FACE LENGTHS AND FACE SHORTENING ON THE BASES OF  
(A) WEAR, AND (B) LOSS AND ABSORPTION

## TOTAL FACE HEIGHT

|       | No.  | WEAR         |          |            | I.P.R. No. | LOSS & ABSORPTION |          |            | I.P.R. |
|-------|------|--------------|----------|------------|------------|-------------------|----------|------------|--------|
|       |      | MEAN         | $\sigma$ | $\Delta$   |            | MEAN              | $\sigma$ | $\Delta$   |        |
| Total | 1065 | 123.25 ± .34 | 6.75     | —          | —1065      | 123.25 ± .34      | 6.75     | —          | —      |
| sm    | 161  | 122.95 ± .25 | 5.55     | .30 ± .36  | .94 4      | 128.00            | —        | —          | —      |
| +     | 67   | 121.55 ± .63 | 7.60     | 1.70 ± .53 | 3.09 27    | 122.35 ± .29      | 2.20     | .90 ± .80  | 1.03   |
| ++    | 25   | 120.80 ± .76 | 5.65     | 4.15 ± .69 | 6.02 26    | 117.40 ± .81      | 6.00     | 5.85 ± .80 | 5.75   |

## UPPER FACE HEIGHT

|       | No.  | WEAR        |          |            | I.P.R. No. | LOSS & ABSORPTION |          |            | I.P.R. |
|-------|------|-------------|----------|------------|------------|-------------------|----------|------------|--------|
|       |      | MEAN        | $\sigma$ | $\Delta$   |            | MEAN              | $\sigma$ | $\Delta$   |        |
| Total | 1065 | 73.25 ± .11 | 5.20     | —          | —1065      | 73.25 ± .11       | 5.20     | —          | —      |
| sm    | 161  | 73.35 ± .27 | 5.05     | .10 ± .28  | .36 4      | 77.00             | —        | —          | —      |
| +     | 67   | 72.05 ± .47 | 5.75     | 1.20 ± .43 | 2.79 27    | 70.70 ± .72       | 5.55     | 2.55 ± .67 | 3.81   |
| ++    | 25   | 72.80 ± .69 | 5.15     | .45 ± .70  | .93 26     | 69.10 ± .73       | 5.55     | 4.15 ± .69 | 6.02   |

## DENTAL REJECTS

| AGE        | No. | % OF<br>WHOLE | THREE       | No. | % OF<br>WHOLE |
|------------|-----|---------------|-------------|-----|---------------|
| 18-19..... | 0   | 0             | MeM.....    | 23  | 21.9          |
| 20-24..... | 1   | 1.1           | Dak.....    | 5   | 4.7           |
| 25-29..... | 2   | 1.3           | MeJ.....    | 9   | 8.7           |
| 30-34..... | 3   | 1.8           | Has.....    | 23  | 20.2          |
| 35-39..... | 11  | 6.9           | Lum.....    | 10  | 9.2           |
| 40-44..... | 18  | 14.0          | Pak.....    | 11  | 10.8          |
| 45-49..... | 18  | 17.5          | Mir.....    | 22  | 21.8          |
| 50-54..... | 27  | 30.7          | Zad.....    | 8   | 7.5           |
| 55-59..... | 22  | 42.3          | Mar.....    | 11  | 10.6          |
| 60-64..... | 19  | 33.9          | Dib.....    | 23  | 21.3          |
| 65.....    | 25  | 61.0          | Interf..... | 3   | 2.8           |

FACE HEIGHTS AND BITE TYPE  
Means of the Corrected Series

|                        | EDGE-TO-EDGE |              | SLIGHTLY-OVER |              |
|------------------------|--------------|--------------|---------------|--------------|
|                        | No.          | MEAN         | No.           | MEAN         |
| Total face height..... | 430          | 123.40 ± .21 | 461           | 123.95 ± .20 |
| Upper face height....  | 430          | 73.60 ± .36  | 461           | 73.50 ± .36  |

**BITE AND FACE BREADTHS, WITH  
RELATED CHARACTERS**

142  
\*128 It is possible, however, that factors in occlusion may be concerned with face breadths. A progressive development of the temporals, masseters, and pterygoids might well bring about an increase in the bowing and flare of the zygomatic arches, reflected in the bizygo-

142  
728 matic diameter. Table 20<sup>1</sup> contains relevant statistics. In general, men with edge-to-edge bites have slightly wider faces than men with overbites, but the difference is 2.83 times p.e. only, a little short of significance. The fact that the men with overbites were 5 years younger than the others links this to age. It is not to be expected that bite alone should be related to face breadth, but rather the amount of pressure used with different kinds of bite, and this pressure can best be measured by its effect on the teeth, i.e., wear. In the edge-to-edge category, the bizygomatic mean increases, although not regularly, with the amount of wear. Two out of 3 of these increases over the means of the absent wear category are significant. The men grouped by wear categories also differ, however, in age, and the bizygomatic mean for each wear category follows closely that of the corre-

[See also, p. 50 -- Analysis]

TABLE 20: THE BIZYGOMATIC DIAMETER, BITE, AND TOOTH WEAR.

|                        | No. | MEAN (MM.)       | AGE (YRS.) | AGE MEAN (MM.)   |
|------------------------|-----|------------------|------------|------------------|
| Overbites .....        | 490 | 141.94 $\pm$ .24 | 36.78      | 142.65 $\pm$ .27 |
| Edge-to-edge .....     | 524 | 142.82 $\pm$ .24 | 41.53      | 142.85 $\pm$ .30 |
| E-E abs. wear .....    | 275 | 141.32 $\pm$ .22 | 36.26      | 142.65 $\pm$ .27 |
| E-E min-ani wear ..... | 162 | 143.05 $\pm$ .31 | 43.24      | 142.85 $\pm$ .30 |
| E-E + wear .....       | 64  | 142.39 $\pm$ .57 | 48.08      | 143.20 $\pm$ .37 |
| E-E ++, +++ wear ..... | 23  | 144.18 $\pm$ .75 | 53.50      | 143.09 $\pm$ .43 |

142  
#128

sponding age group. Face breadth increases 3 to 4 millimeters during adult life, up to the late 50's. This increase appears to be concentrated among the men with edge-to-edge bites; most of the men with overbites are younger. Although use and growth seem to go together, one cannot of course point definitely to a causal relationship. One can only suggest it as a likelihood worthy of experimental testing.

142  
\*128 Whatever the reason, our Ghegs are 3 or 4 millimeters wider in the bizygomatic diameter than a series of genetically similar younger men would be. This should be considered in interseries comparisons.

In order to test effect of bite further, serializations similar to those for the bizygomatic were made for the bigonial diameter. No differences were found; this dimension does not even increase with age. The observations on the forward and sidewise jut of the malars and in the fullness of the cheeks were further tested for bite properties, also without showing difference. In these respects the phenotype needs no qualification, except in one sense: the triangularity of the lower face suggested by the relative widths of the bizygomatic and bigonial diameters must increase with age. Again the typical Dinaric is an elderly individual.

\*128  
141 The one exception is Malsia e Jakovës, divided between limestone and folded. These 2 areas are nearly the same in stature, and the difference between tribal segments is inconsequential. The 4 other men from this tribe who lived in serpentine territory were much shorter, 168 centimeters. Not only were the men from serpentine territory short as a whole, but very few of the exceptionally tall men, the "giants" of 180 to 190 centimeters from whom the Ghegs get their name, are found among them. These striking figures are seen almost exclusively north of the Drin. A few turn up near the limestone area of northern Mati, where a small sample suggests that a tall enclave may be found.

\*128  
142 From a statistical standpoint, the most telling division within a tribe is that which splits Dibra into serpentine and eastern subsamples. The difference between the means, 3.07, is 3.49 times p.e. In order to test this for the possibility of a genetic difference I selected the one character in which Dibra is most distinctive, light brown eye color, and sorted the subsamples for it. Out of 15 men whose eyes were of this hue, 7, or 19 per cent, were from serpentine territory, and 8, or 11 per cent, from the eastern. Neither the rest of serpentine nor the rest of eastern approach these frequencies. In this character, which is certainly genetic, Dibra is still a unit, still separate from its neighbors.

141  
582  
\*128 Although fragmentation of the series is unprofitable because of the smallness of the subsamples, one example may show what kind of thing to expect when the local enclaves can be investigated. In Dukagin, as stated earlier, mutual exogamy, with cross-cousin marriage, is the rule between the people of Shala and Shoshi. However, many of the Shala men marry Shala women, who come from the families of *anas*, unrelated in the male line to the *fis* of Dukagin. In Shoshi also local endogamy takes place, but more rarely. Shala is apparently in the limestone, Shoshi in the folded, area. Shala men whose mothers came from Shoshi are 4.04 centimeters taller (see table 21, last part) than Shala men whose mothers were local, and this difference is 5.53 times its p.e. At the same time Shala men with Shoshi mothers are 3.37 centimeters taller than their cousins, the Shoshi men with Shala mothers, and this comes to 2.88 times p.e.

1 [pre cat. 116 p. 88c  
-- Anal. 101]

141 from all the others in the measurements of the  
\*128 head and face. These people are, compared to the others, notably narrow headed, narrow faced, and long faced.

Head form (figs. 14, 15) follows the same distribution shown by the tribes. The one measurement that does not vary at all significantly is head height. Head length, however, shows the greatest variation of any character recorded. Computing a cephalic module from the means,<sup>7</sup> we find the areas clustered into 2 groups, limestone and folded, with 158.90 and 158.41 centimeters respectively, and flysch, serpentine, and eastern with 155.65, 156.71, and 156.91; big heads and medium to small heads. The size of the head, within a major racial group of man, goes with the volume of the body.<sup>8</sup> In a series like ours where the dimensions of the head are subject to great variation of questionable origin, head size is a more useful criterion for the purpose of this chapter than its components. It clearly separates the Mountain Ghegs into 2 categories, one large, the other medium to small.

This, rather than the individual measurements and indices, is the most suggestive difference yet found between regional segments of the total series. The people in the limestone karst country are big people, and their kinsmen in the country where the soil is laid on a medley of folded outcrops are nearly as big. The people living in the land of serpentine and gabbro are much smaller, as is the small sample of flysch-dwellers. To the east, in the valley of the Black Drin and up into the Prizren region, the people are of intermediate stature, but with relatively long, narrow heads and faces.

142 In addition to the data presented, sortings  
\*128 were made for a number of observations which might have to do with general robusticity. This effort yielded nothing that the tribal sortings have not already revealed. No difference was found between areas in the proportion of concave scapulae, which seem to have more to do with age than with nutrition. [164] Finally, the teeth of all areas were seen to be equally carious, equal in frequency of evulsion.

#### PRIVILEGE AND NUTRITION

565 In many countries food and other benefits  
141 are unequally distributed, and in some of them  
\*128

<sup>7</sup> Cephalic module =  $\frac{L+B+Ht.}{3}$

1 [see cat. 116, pp. 114-115  
-- Analyst]

2 [see cat. 116 p. 89b  
-- Analyst]



Two Guna Fumortu. Standard Dinaric Mountain Obag: a, Kadima tribe; age, 31; eyes, blue-brown; hair, dark brown; beard, reddish brown; cephalic index, 88; facial index, 81; nasal index, 68; stature, 171.1. A Dinaric... b; age, 30; eyes, blue-brown; hair, black greyish; beard, red-brown greyish; cephalic index, 90; facial index, 94; nasal index, 78; stature, 178.8. The Bosnian type of the northwest: c, Mahla e Madine tribe; age, 40; eyes, blue; hair, golden; beard, golden; cephalic index, 86; facial index, 86; nasal index, 67; stature, 171.5. d, Dukagjin tribe; age, 48; eyes, green-brown; hair, golden; beard, golden; cephalic index, 90; facial index, 78; nasal index, 67; stature, 180.

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AGE CHANGES IN FACE FORM. 18-24-year-old group: a, Malës e Jakovës tribe; age, 22; eyes, green-brown; hair, dark brown; beard, dark brown; cephalic index, 84; facial index, 84; nasal index, 57; stature, 172.5. b, Puka tribe; age, 28; eyes, green-brown; hair, dark brown; beard, golden; cephalic index, 80; facial index, 91; nasal index, 58; stature, 174. 30-36-year-old group: c, Zadrima tribe; age, 30; eyes, green-brown; hair, dark brown; beard, light brown; cephalic index, 87; facial index, 82; nasal index, 46; stature, 165. d, Mirdita tribe; age, 40; eyes, green-brown; hair, black grayness; beard, red-brown grayness; cephalic index, 84; facial index, 80; nasal index, 59; stature, 172.3. 40-75-year-old group: e, Zadrima tribe; age, 60; eyes, green-brown; hair, dark brown-gray; beard, red-brown grayness; cephalic index, 80; facial index, 85; nasal index, 53; stature, 171.6. f, Luma tribe; age, 65; eyes, green-brown; hair, black grayness; beard, red-brown grayness; cephalic index, 80; facial index, 85; nasal index, 58; stature, 170.7.

Dr. Coon E-5 (1929-30; 46-48) 1950  
 EXI Alberta EXI  
 Highland Chaga

Portrait Museum, Ottawa

Vol. XIII, No. 1, Spring 1951

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VARIATIONS IN HEAD FORM. The undeformed head: a, Luma tribe; age, 25; eyes, dark brown; hair, dark brown; beard, dark brown; cephalic index, 76; facial index, 87; nasal index, 62; stature, 177. b, Luma tribe; age, 25; eyes, blue-brown; hair, medium brown; beard, light brown; cephalic index, 76; facial index, 86; nasal index, 55; stature, 168.5. Lambdoid flattening: c, Dikaga tribe; age, 30; eyes, green-brown; hair, black; beard, reddish brown; cephalic index, 83; facial index, 79; nasal index, 60; stature, 174.1. d, Mada e Madhe tribe; age, 45; eyes, green-brown; hair, black grayness; beard, red-brown grayness; cephalic index, 80; facial index, 86; nasal index, 63; stature, 177.5.

B. Coon E-5 (1929-30; 46-48) 1950

ECI Albania ECI  
Highland Ghegs

Dumay's Museum, Paris

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VARIATIONS OF HEAD FORMS (continued). *Occipital flattening*: a, Luma tribe; age, 26; eyes, green-brown; hair, golden; beard, golden; cephalic index, 90; facial index, 86; nasal index, 65; stature, 177.0. b, Puka tribe; age, 26; eyes, green-brown; hair, dark brown; beard, dark brown; cephalic index, 91; facial index, 81; nasal index, 65; stature, 170.2. *Both lambdoid and occipital flattening*: c, Mahla e Jakovës tribe; age, 26; eyes, green-brown; hair, black; beard, black; cephalic index, 90; facial index, 86; nasal index, 61; stature, 174.0. *Brachycephaly*: d, Mirdita tribe; age, 50; eyes, green-brown; hair, black; beard, red-brown; cephalic index, 90; facial index, 81; nasal index, 46; stature, 161.1.

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8: Coon E-5 (1929-30; 46-48) 1960

ECI Albania ECI  
Highland Chaga

Portrait: Mammal Pasma

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THE BORNEN TONE. a, Albanian-born. b, American-born. c, Albanian-born. d, American-born.

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- 352 two transverse ledges nailed to them and serving as feet (Figure 11);<sup>2</sup>  
low, three-legged stools and semicircular arm chairs; bedsteads of  
posts rammed into the ground, floors made of boards or intertwined  
switches; and heaped up hay or ferns (Figure 11).<sup>2</sup> Cradles which are  
415 carried like a rucksack on the back. Among the kitchen utensil the  
baking bowl is important; it is made red hot and then the dough is  
placed in it and the baking bell is placed over it, on top of which  
embers are again heaped. Large wooden tubs with hoops of hazelnut  
are used to keep the wine, and smaller ones for water, butter, and  
brine for the cheese; sacks of sheep's or goat's hide are used to keep  
354 milk. The open hearth fire, at the same time heating and cooking  
place, is situated in the center of the living room in a depression  
filled with loam; above it is suspended the kettle by a bent branch in  
its natural state, or by an iron chain; to the side of the fireplace a  
recess has been made into the wall to form a niche for the stove bench.  
Originally any kind of outlet for the smoke was lacking, then a hole  
for the smoke was left open, a flue was added; but it was not till later  
that proper fireplaces with a chimney were constructed.

/99: Illustrations. /

/100/

The Albanians

## II.

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1. Woman from the Arbrie on the highland pastures of Kalmak.
2. Mohammedan Albanian.
3. Women from Scutari with wide breeches.
4. North Albanian shepherdess.
5. North Albanian woman with a wide apron.
6. Swimming bag and a raft of intertwined willow twigs floating on swimming bags; on the raft the swimmer's bundle of clothing.
7. Ferry made of a double canoe with planks raising the edge.
8. Canoe with booms on both sides.
9. Wooden plow.
10. Cross-section of a turbine mill.
11. Husking of corn by means of threshing flails.
12. Two-wheeled ox-cart.
13. Albanian from the region near Dibro.
14. Hand mill.
15. A pouch made of beech tree bark used for picking berries.
16. Peg with markings for water line use.<sup>1</sup>

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The Albanians are amply medium-sized, powerfully built, mostly with short heads, with a narrow, long face. Blue eyes and  
000 light hair occur not infrequently. In many cases the men shave their

<sup>1</sup>For illustrations, see 1: Karutz, E1 Europe, cat. 116, p. 69a--Analyst  
<sup>2</sup>See 1: Karutz, E1 Europe, cat. 116, p. 69a--Analyst

## To the Land of the Eagle

142 Everybody carried something. Many of the older men were noticeable for their height and the vigour with which they strode along. Their features were strongly marked, their noses aquiline, and the custom of close-cropping the head made it difficult to realise at first glance how old they really were. Some of the women, too, had good features, though they were seldom upright or tall, years of labour in the fields  
000 having stunted their growth and bent their backs. The life of the Albanian peasant is, undeniably, a hard life; but is it not, when all is said, healthier, happier, and more to be desired, than the sordid existence of thousands of workers in the dreary manufacturing towns of Great Britain and Western Europe? I thought of the conversation in the fez-maker's shop, and saw Albania, in imagination, under the thrall of industrialism. Instead of white minarets pointing skywards—black chimneys belching smoke. Instead of the voice of the muezzin calling the faithful to prayer—the screech of the steam siren calling them to work. In place of sturdy peasants striding home to their villages in plain and mountain—factory hands, pale and anæmic, pouring out of the factory gate. Instead of the distaff and the hand-loom—the spinning-mule and the power-loom, and women working all day in a heated atmosphere and a racket of machinery for the benefit of . . . . whom? And again I wondered at the folly of people who could deliberately choose such a life, or grumble because of the lack of it.

The doctor at Podgradetz had given me an introduction

*Sons of the Eagle*

[18] of their political genius is attested by the number of remarkable men of action which their race has given to the world. Alexander the Great, Pyrrhus of Epirus, the Köprülü, Mehmet Ali of Egypt, Ali of Yannina, Condouriotis, Crispi, and Kemal Atatürk may justly be reckoned among them; not to speak of more than twenty Grand Viziers, and a host of Generals and politicians who served the empires of Macedon, Rome, and Turkey. Yet it is significant of the disunity and intractability of their nation that, although Albanians have often risen to rule empires, only twice in a thousand years — under Skanderbeg and under Zog; and then only with foreign support — has an Albanian ruled Albania.

[142] The Albanians were thus remarkable as individuals rather than as a people, representative perhaps of the highest levels to which man can attain without submitting to the yoke and goad of a community. Their life was too harsh and their amenities too few to permit of any flowering of culture, but, though their circumstances were primitive beyond measure, yet they were never barbarous. Their aquiline features and delicate hands were matched by a dignity of bearing and tolerance of outlook eloquent of the natural distinction of their race. Pyrrhus had called them *shkipetare*, or Sons of the Eagle, and their fierce and predatory natures well deserved the name. Keen of eye and cold of heart, they were bold in decision, but, like all mercenaries, unpredictable in battle. Freedom and vengeance were their ruling passions; and they lived without joy and died with reluctance rather than regret. Ungovernably proud, they were impatient of all restraint, utterly unteachable, deaf to appeals, suspicious of intentions, hard to lead, and impossible to drive; great gentlemen and great robbers, prizing honour above honesty, gold more than both and power beyond them all.

642 THE independence of Albania was not achieved by the exertions of the Albanians: the mountaineers among them had never been other than independent, while the townsmen had wel-